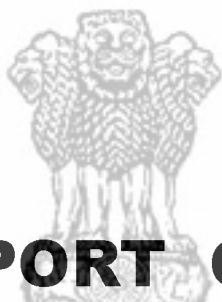




सत्यमेव जयते

**GOVERNMENT OF INDIA**  
**T A R I F F C O M M I S S I O N**



**REPORT ON**  
**THE CONTINUANCE OF PROTECTION TO THE**  
**BARE COPPER CONDUCTORS AND A.C.S.R**  
**(ALUMINIUM CINDUCTOR STEEL REINFOCED )INDUSTF**

**BOMBAY 1957**

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SHRI K. R. DAMLE, I. C. S.	Chairman
SHRI C. RAMASUBBAN	Member
DR. S. K. MURANJAN, D. SC. (LONDON)	Member
SHRI J. N. DUTTA	Member
SHRI R. S. BHATT	Member

### PANEL FOR THE INQUIRY

SHRI C. RAMASUBBAN

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**SECRETARY**

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सत्यमेव जयते

GOVERNMENT OF INDIA  
MINISTRY OF COMMERCE AND INDUSTRY  
(DEPARTMENT OF HEAVY INDUSTRIES)

RESOLUTION

TARIFFS

New Delhi, the 2nd December, 1957.

**No. 3(5)-T.R./57.**—The Tariff Commission has submitted its Report on the continuance of protection to the Bare Copper Conductors and A. C. S. R. (Aluminium Conductor Steel Reinforced) Industry on the basis of an inquiry undertaken by it under Sections 11(e) and 13 of the Tariff Commission Act, 1951. Its main recommendations are:—

- (1) Protection to the electrolytic copper rods industry should be continued at the prevailing rates of duty for a further period of three years ending 31st December, 1960.
- (2) Protection to the bare copper conductors industry should be continued at the existing rate of duty for a further period of three years ending 31st December, 1960.
- (3) Protection to the A. C. S. R. (Aluminium Conductor Steel Reinforced) Industry should be continued for a further period of three years ending 31st December, 1960 at the existing rate of duty.
- (4) All aluminium conductors, irrespective of their conductivity in terms of copper wires, should be protected and brought under I. C. T. No. 72(12) and assessed to the same rate of protective duty *i.e.*, 35 per cent. *ad valorem*, as A. C. S. R.
- (5) Both electrolytic aluminium ingots/bars and rods used in the manufacture of A. C. S. R. should be subject to a uniform concessional duty of 15 per cent. *ad valorem*.
- (6) Manufacturers of all aluminium conductors should be allowed to import electrolytic aluminium ingots/bars and rods at the concessional rate of duty recommended for A. C. S. R.
- (7) Unless there are special considerations in favour of the present definition, steel wires with carbon content between 0.5 per cent. and 0.6 per cent. should be exempted from so much of the duty as is in excess of what is payable under I. C. T. No. 63(32).
- (8) The existing ban on exports of bare copper conductors and cadmium copper conductors should be lifted and the industry should endeavour to export these products to neighbouring countries.

(ii)

- (9) The Development Wing of the Ministry of Commerce and Industry should take steps to reassess and accurately determine the capacity of individual units manufacturing bare copper and aluminium conductors in consultation with the Development Council for Heavy Electrical Industries.
- (10) The Iron and Steel Controller should make arrangements for speedy issue of import licences for steel wires required by the manufacturers of A. C. S. R.
- (11) The Indian Posts and Telegraphs Department should examine further the possibility of using A. C. S. R., all aluminium conductors (A. A. C.) and cadmium copper conductors, which are locally available, in the place of copper weld wires.
- (12) All units producing bare copper and aluminium conductors should take immediate steps to obtain licences for I. S. I. Certification Marks and market their products under those marks.
- (13) All the units engaged in the manufacture of conductors should take immediate steps to introduce a proper system of costing and report to the Commission before the end of June, 1958.

2. Government accept recommendations (1) to (4) and necessary legislation will be undertaken in due course. The higher rate of duty viz. 35% *ad valorem*, recommended in the case of A. A. C., has been brought into force with immediate effect under a notification issued separately.

3. Government have taken note of recommendations (5) to (7) for consideration and suitable action being taken in due course.

4. Government have taken note of recommendations (8) to (11) and will take such suitable action as may be possible.

5. The attention of the units engaged in the manufacture of conductors is invited to recommendations (12) and (13).

### ORDER

ORDERED that a copy of the Resolution be communicated to all concerned and it be published in the *Gazette of India*.

S. RANGANATHAN,

*Secretary to the Government of India.*

## REPORT ON THE CONTINUANCE OF PROTECTION TO THE BARE COPPER CONDUCTORS AND A. C. S. R. (ALUMINIUM CONDUCTOR STEEL REINFORCED) INDUSTRY.

11. The first inquiry into the electric wires and cables industry was undertaken by the Tariff Board in 1928. It was more in the nature of a summary investigation into certain tariff inequalities than a detailed inquiry for tariff protection. Indian Cable Co. Ltd., Calcutta represented to Government early in 1923 that it had been operating under a serious handicap with higher duties on principal raw materials (electrolytic copper rods or black copper rods, raw rubber, cotton, silk, etc.) and a lower duty on the finished product, namely copper conductors. The Company pointed out that while the duty on electrolytic copper rods was 15 per cent. *ad valorem*, that on bare copper wires and cables having a sectional area of 1/80th square inch and over (which is produced from electrolytic copper rods) was 2½ per cent. *ad valorem*. Pending investigation of the case by the Tariff Board, Government gave interim relief to the Company by allowing duty-free import of electrolytic copper rods for the manufacture of electric wires and cables. The case was referred to the Board only in March 1925. However, when the matter was still pending before the Board, Government removed the duty on wires and cables in October, 1927 in pursuance of their policy of exempting machinery and component parts, as far as possible, from payment of duty. This had the effect of offsetting to some extent the relief previously granted to the industry in the form of duty-free import of electrolytic copper rods.

1.2. In its report submitted in August 1928 the Board recommended that the duty on electrolytic copper rods should be removed and a duty of 5 per cent. *ad valorem* levied on rubber insulated wires and cables of 1/80th square inch and over sectional area, other than paper-insulated cables. Both the recommendations were accepted by Government.

1.3. The second inquiry related to the claim for protection of the wires and cables industry and was undertaken by the Tariff Board in 1931. In its report submitted in the same year the Board rejected the claim on the ground that the industry did not satisfy the three conditions laid down by the Fiscal Commission in 1922.

1.4. In 1946 the Tariff Board conducted an investigation into the claim of the non-ferrous metals industry to protection. The scope of that inquiry covered virgin metals, alloys, semi-manufactures and manufactures which included wire and cables, both bare and insulated. The Board submitted its report in October 1946. The articles on which protective duties were recommended included electrolytic copper rods, bare hard drawn or annealed, electrolytic copper wires and cables and A. C. S. R. The rates of duties recommended were 20 per cent. *ad valorem* (preferential) and 30 per cent. *ad valorem* (standard) on electrolytic copper rods and 30 per cent. *ad valorem* on electrolytic bare copper wires and cables and A. C. S. R. These recommendations were accepted by Government and implemented by

the Indian Tariff (Amendment) Act, 1948 which came into force on 24th September, 1948. The above rates underwent some changes consequent on the introduction of revenue surcharges by Finance Act, 1951. The revenue surcharges were, however, abolished with effect from 16th May, 1957 by Finance (No. 2) Act, 1957 and simultaneously the rates of duty applicable to I. C. T. items No. 64(4) and 72(12) were raised with effect from 16th May, 1957. The current rates of duty are as follows:

Indian Customs Tariff Item No.	Name of article	Nature of duty	Rate of duty
64 (4)	Electrolytic copper rods or black copper rods (in coils) —		
	(a) of British manufacture	Protective	25 per cent. <i>ad valorem</i>
	(b) not of British manufacture	Protective	35 per cent. <i>ad valorem</i>
72 (12)	Bare hard drawn or annealed electrolytic copper wires and cables of all sizes, solid or stranded, and A.C.S.R. (aluminium conductor steel re-inforced).	Protective	35 per cent. <i>ad valorem</i>

Incidentally, in its report on the Aluminium Industry (1946) the Tariff Board had made a recommendation to the effect that manufacturers of A. C. S. R. should be given a rebate of duty in excess of 30 per cent. *ad valorem* on electrolytic aluminium rods imported by them. Government accepted the principle of this recommendation and removed the entire duty on electrolytic aluminium rods imported for the manufacture of A. C. S. R. This concession was, however, later modified. With effect from 14th July, 1954, the manufacturers of A. C. S. R. have been allowed, in consultation with the Tariff Commission, partial remission of duty on electrolytic aluminium ingots, bars and rods imported by them. They are now liable to pay a duty of 15 per cent. *ad valorem* on imports of aluminium ingots/bars and 17½ per cent. *ad valorem* on imports of aluminium rods used in the manufacture of A. C. S. R.

1.5. Protection granted to the industry was extended by Government from time to time in consultation with the Tariff Board or, as the case was, the Tariff Commission. The current period of protection is due to expire on 31st December, 1957.

2. The present inquiry was undertaken under section 11(e) read with section 13 of the Tariff Commission Act, 1951 by which the Commission is empowered to inquire into and report on any further action required in relation to the protection granted to an industry and to recommend any further action required with a view to its increase, decrease, modification or abolition according to the circumstances of the case.

#### Present inquiry

**Scope of the inquiry and issues for examination**

3. At present protection is given to bare hard drawn or annealed electrolytic copper wires and cables of all sizes, solid or stranded and A.C. S. R. covered by item No. 72(12) of the First Schedule to the Indian Tariff Act, 1934. The scope of the Commission's inquiry would, therefore, cover these wires and conductors. Further, in connection with our inquiry into the non-ferrous metals industry in August 1957, it was decided to include the case of continuance of protection to electrolytic copper rods in the scope of the present inquiry. The following specific issues bearing on this case have also been referred to the Commission by Government: (1) The continuance of partial remission of duty on aluminium ingots/bars and rods used in the manufacture of A. C. S. R. (2) The tariff anomaly in respect of all aluminium conductors where the raw material, namely, electrolytic aluminium rod is assessed to a duty of 35 per cent. *ad valorem* while the finished product is assessed to a lower rate of duty of 10 per cent. *ad valorem*. This came up for examination by the Commission in the course of its inquiry into the Aluminium industry in 1955, but was deferred for being taken up with the present inquiry. (3) The request for duty-free imports of copper-weld rods for producing copper-weld wires. The scope of the inquiry covers, therefore, the following:—

- (a) Continuance of protection (including assistance) to:
  - (i) the electrolytic copper rod industry;
  - (ii) the bare copper conductors and A. C. S. R. industry.
- (b) Continuance of partial remission of duty on electrolytic aluminium ingots/bars and rods used in the manufacture of A. C. S. R.;
- (c) Tariff anomaly relating to the all aluminium conductors industry; and
- (d) Assistance to the copper-weld wire industry.

4.1. A special questionnaire for producers of copper and aluminium conductors was issued on 17th May, 1957. Questionnaires to principal importers and dealers

**Method of inquiry**

of conductors and raw materials (electrolytic copper and aluminium bars/rods) were issued on 12th June, 1957. On the same day a questionnaire was also issued to consumers, namely, principal electricity and distribution undertakings (State and Private), their associations including the Federation of Electricity Undertakings of India, Bombay, and also all power projects in the country. The consumer's questionnaire was also sent to institutional consumers like the Director General of Posts and Telegraphs, the Director General of Ordnance Factories, the Chief Controller of Telegraph Stores, Calcutta, the Additional Chief Engineer, Technical and Development, Posts and Telegraphs, Jabalpur, the General Manager of Telephone Districts, the Railway Board, the General Managers of Regional Railways, the General Manager, Chittaranjan Locomotive Works, Calcutta and the Chief Administrative Officer, Integral Coach Factory, Madras. The Development Wing, the Central Water and Power Commission and the Directorate General of



Supplies and Disposals and the State Governments which have manufacturing units in their territories were also invited to send memoranda on the several aspects of the industry. The Indian Standards Institution was addressed for information regarding standard specifications and certification marks. Data relating to latest c.i.f. prices of the types and specifications of conductors selected for costing were called for from Collectors of Customs at the principal ports. The Indian Embassies in U.S.A., Japan, Austria, West Germany, Sweden, Belgium, Italy and France and the Indian High Commissions in Canada and U. K. were requested to furnish information about f.o.b. prices, current selling prices and the trend of prices in future for the selected types of conductors. A questionnaire was also issued to manufacturers of raw materials (electrolytic copper and aluminium rods). A special letter calling for information on copper-weld wires was sent to the following institutional users, namely, the Posts and Telegraphs Department, the Telephone Districts, the Railway Board, the Regional Railways, the Directorate General of Supplies and Disposals and the Tata Hydro Electric Co. Ltd., Bombay. The Development Commissioner, Small Scale Industries, New Delhi was addressed for information on the small scale sector of the industry. The Engineering Association of India, the Indian Non-ferrous Metals Manufacturers' Association and the Indian Electrical Manufacturers' Association were requested to furnish memoranda on the industry. A press note was issued on 17th June, 1957 stating that the Commission had taken up the inquiry into the question of continuance of protection to the bare copper conductors and A. C. S. R. industry and that firms/bodies interested in them might obtain copies of the relevant questionnaire from the Secretary of the Commission. A list of firms/bodies to whom questionnaires/letters were sent and those from whom replies or memoranda were received is given in Appendix I.

4.2. Shri N. Krishnan, Senior Cost Accounts Officer and Shri P. M. Menon, Assistant Cost Accounts Officer, visited Aluminium Industries Ltd., Kundara in May and in April, 1957 respectively for the purpose of examining the cost of production of aluminium conductors at that factory. Shri A. R. Srinivasan, Assistant Cost Accounts Officer, visited National Insulated Cable Co. of India Ltd., and Electrical Manufacturing Co. Ltd., Calcutta, in May, 1957, and Shri A. K. Gopalan, Assistant Cost Accounts Officer visited Indian Cable Co., Ltd., at Tatanagar in June, 1957 and examined the costs of production of copper/aluminium conductors manufactured at the respective factories.

4.3. Shri C. Ramasubban and Shri R. S. Bhatt, Members, visited Aluminium Industries Ltd., Kundara on 31st August, 1957. Dr. S. K. Muranjan and Shri J. N. Dutta, Members, visited Indian Cable Co. Ltd., Tatanagar on 4th September, 1957 and National Insulated Cable Co. of India Ltd., and Electrical Manufacturing Co. Ltd., Calcutta on 5th and 6th September, 1957 respectively.

4.4. A public inquiry was held in the Commission's office in Bombay on 17th September, 1957. A list of those who attended the inquiry is given in Appendix II.

5.1. Bare copper and aluminium conductors are used for Over-head transmission and distribution of electricity.

Uses

5.2. Broadly, A. C. S. R. cables are preferred for high tension transmission lines of 11 kv, 22 kv, 33 kv, etc. and are almost exclusively used for super high tension lines of 66 kv and above for which copper wires and cables are not found suitable. For low tension distribution lines either solid bare copper wires and cables or all aluminium conductors are used, but at present copper wires and cables are more widely used. Stranded copper conductors are used for high tension transmission lines up to 33 kv. Thus copper and aluminium conductors have uses in both low tension and high tension transmission and distribution systems. We are, however, informed that there is at present a trend to shift more and more to aluminium cables and wires whenever this is possible.

5.3. The Posts and Telegraphs Department generally uses three types of wires: (1) bare hard drawn copper wire, (2) cadmium copper wire and (3) copper-weld wire. Copper-weld wires, being steel wires with welded copper coating, possess high tensile strength and are preferred for long span construction. The Department uses mostly copper-weld wire in areas where there are thefts of copper wire. Cadmium copper conductors are used on short-span transmission lines. Since copper content in these wires is as high as 99 per cent and recovery of copper is not difficult, they are also liable to thefts on a large scale. We understand that in other countries notably in U.S.A., A. C. S. R. is replacing copper-weld wires for long-span telegraph and telephone lines, and A. A. C. and cadmium copper conductors for short-span lines.

5.4. Railways and Tramways use grooved copper conductors or cadmium copper conductors for electrification.

**Process of manufacture** 6.1. Electrolytic copper wire bars are rolled into round rods of different sizes by heating the bars in an oil fired pre-heating furnace to bright red heat and reducing them in dimensions through a series of rolls in roughing, intermediate and finishing mills. Rods emerging from the last set of rolls are coiled by an automatic coiler. The copper rods are then annealed and pickled in a weak solution of sulphuric acid to remove surface oxidation and dirt and then passed through a series of wire-drawing tungsten carbide and diamond dies into required sizes of copper conductors.

6.2. Aluminium ingots or wire bars are also treated in the same manner as electrolytic copper wire bars for rolling into rods except that the pre-heating temperature is lower. Further, aluminium rods do not need pickling. The process of drawing aluminium wires from aluminium rods is exactly the same as that of copper wires from copper rods.

6.3. For stranded conductors the required number of hard drawn bare wires are twisted in a geometrically rounded form by a stranding machine.

6.4. For A. C. S. R. conductors, the centre core consists of a single galvanised steel wire or a multiple strand of galvanised steel wires. The imported steel coils are wound on spools and then stranded in stranding machines to form the core. The aluminium strands are then formed over this core.

7.1. The cable industry in our country is nearly 35 years old. The first unit was Indian Cable Co. Ltd., which was registered in Calcutta in August, 1922 for the manufacture of copper wire and strand for telegraph, telephone and transmission lines, rubber-insulated cables and cotton-covered wires. The second unit was National Insulated Cable Co. of India Ltd., which was established in Calcutta in 1942. In 1946 when the Tariff Board conducted the inquiry into the non-ferrous metals industry, only the above two units were engaged in the manufacture of conductors and they produced only copper conductors. Since then the industry has made rapid progress. There are now nine units licensed under the Industries (Development and Regulation) Act, 1951 which are engaged in the production of conductors, of which two manufacture both copper and aluminium conductors, four manufacture only copper conductors and three manufacture only aluminium conductors. Most of the units produce a wide range of goods apart from bare copper conductors and aluminium conductors. Some have interests in the preparation of materials for conductors (mainly electrolytic copper or aluminium rods) and also make cable accessories. We were informed that these nine units are members of either the Indian Non-ferrous Metals Manufacturers' Association or the Indian Electrical Manufacturers' Association or both. Brief particulars about each of the nine units are given below:—

7.2.1. *Indian Cable Co. Ltd., Calcutta.*—This is a public limited company with an authorised capital of Rs. 200 lakhs and paid up capital of Rs. 165·77 lakhs as on 31st March, 1956. About 57 per cent. of the capital is held by Indians. The factory is situated at Golmuri in Tatanagar, Bihar. It is managed by Managing Directors and has two non-Indian Directors on its Board of Directors. It has entered into technical collaboration with British Insulated Callender's Cables Ltd., London, under an agreement which provides for engineering assistance, training facilities for staff, purchase of machinery, tools and raw materials. In addition to bare copper conductors, solid or stranded, A. C. S. R. and electrolytic copper rods, the Company produces a number of articles, such as electrolytic aluminium rods, cadmium copper rods, bare copper strips, bare aluminium wires (solid and stranded), bare copper-weld wires (solid and stranded), cadmium copper wires (solid and stranded), cotton covered wires and strips, paper covered wires and strips, paper and/or cotton covered wires and strips, rubber-insulated cables and flexibles, P. V. C. insulated cables and flexibles, varnished cambric insulated cables and enamelled copper wires. The Company commenced manufacture of copper conductors in 1923, aluminium conductors in 1951 and A. C. S. R. in 1953. The manufacture of electrolytic copper rods and cadmium copper rods was started in 1953 and electrolytic aluminium rods in 1955. The Company has also plans for manufacturing paper insulated power cables and for expansion of its capacities for the protection of hard drawn bare copper conductors and A. C. S. R.

7.2.2. The Company's present paid up capital of Rs. 165·77 lakhs, is made up of Rs. 152·89 lakhs representing ordinary share capital and Rs. 12·88 lakhs representing six per cent. cumulative preference share capital. Ordinary shares to the value of Rs. 97·14 lakhs only were

subscribed in cash, while the balance of Rs. 55.75 lakhs represents bonus shares issued in 1951 to the existing shareholders. The Company has also issued 5½ per cent. Registered Debentures (repayable in 1964-69) for the value of Rs. 100 lakhs. The original value of the fixed assets of the Company as on 31st March, 1957 was Rs. 199.39 lakhs and the written down value Rs. 127.88 lakhs. The reserves built up by the Company as on the above date stood at Rs. 137 lakhs as under:—

	Rs. in lakhs	Rs. in lakhs
General Reserve . . . . .		60
Specific Reserve:—		
Contingency Reserve . . . . .	36	
Basic stock Reserve . . . . .	30	
For replacement of fixed assets . . . . .	5	
For bad and doubtful debts . . . . .	6	
		<hr/> 77
		<hr/> 137

The average number of employees at the Company's factory at Tatanagar during the first quarter of 1957 was 2,907 made up of 1,664 workers, 135 subordinate staff and 10 officers on the production side, 65 subordinate staff and 4 officers on the administrative side, and 972 subordinate staff and 57 officers on the sales and distribution side.

7.3.1. *National Insulated Cable Co. of India Ltd., Calcutta.*—This is a public limited company with an authorised capital of Rs. 75 lakhs and paid up capital of Rs. 40 lakhs as on 31st March, 1956. The entire share capital consisting only of ordinary shares is held by Indians. The Company has also issued debentures for Rs. 10 lakhs secured by a charge on its assets and carrying interest at 5½ per cent. per annum. Its factory was first located at Mehgan near Jabalpur and later shifted to Shamnagar (24 Parganas, West Bengal). The Company is managed by Managing Agents, the Associated Industrial Development Co. (Private) Ltd., who will be in office till August 1960 and draw remuneration at ten per cent. of the net profits. All the Directors are Indian nationals. The company entered into an agreement in 1950 with British Insulated Callender's Cables Ltd., London, for technical advice and for the loan of experienced technicians when required. It commenced production of bare copper conductors in 1943 and A. C. S. R. and all aluminium conductors in 1949. Apart from these conductors the company produces soft drawn copper wires, rubber insulated cables of all types and sizes, cotton and paper covered wires and strips and enamelled copper wires. It has also plans for the manufacture of copper grooved conductors by 1958 for which it has received a licence from Government. The Company proposes to set up shortly a rod mill for the manufacture of electrolytic copper rods.

7.3.2. The original value of the fixed assets of the Company on 31st March, 1956 was Rs. 63·55 lakhs and the written down value Rs. 22·28 lakhs. The reserves built up by the Company stood as follows on 31st March, 1956:—

	Rs. in lakhs	Rs. in lakhs
General Reserve . . . . .		40
Specific Reserve:		
For dividend Equalisation . . . . .	7·5	
For Capital redemption . . . . .	10·0	
For debenture Redemption . . . . .	10·0	
Bad Debts Reserve . . . . .	1·0	
For Expansion . . . . .	6·0	
	<hr/>	34·50
<b>TOTAL</b>		<b>74·50</b>

The average number of employees at the Company's factory during the first quarter of 1957 was 743 made up of 560 workers, 169 subordinate staff and 14 officers.

7.4.1. *Aluminium Industries Ltd., Kundara.*—This is a public limited company which was registered in 1946 in the former Travancore State. Its authorised capital was Rs. 1 crore and paid up capital Rs. 40 lakhs (comprising of ordinary shares only) as on 31st March, 1957. Since that date the subscribed capital has been increased to Rs. 80 lakhs of which Rs. 60 lakhs has been paid up. About 98 per cent. of the capital is held by Indians. The factory is located in Kundara (Kerala State). The firm is managed by Managing Agents Seshasayee Brothers (Travancore) Private Ltd., who are entitled to remuneration at ten per cent. of the net profits subject to a minimum of Rs. 10,000. The Company entered into technical collaboration with the Aluminium Laboratories Limited, Montreal, Canada for the establishment of the factory and technical advice. The agreement came into force in March, 1945 and terminated one month after the factory had begun successful operation. It commenced production of aluminium conductors in 1950 and of aluminium rods for the manufacture of conductors in May, 1955. Besides aluminium conductors (A. C. S. R. and all aluminium conductor), the Company manufactures line tools and accessories for transmission and distribution of electricity. It has been granted a licence to establish a second factory in Hirakud, Orissa State. This factory will manufacture aluminium conductors from ingots to be supplied by the Indian Aluminium Company's smelter under erection at Hirakud.

7.4.2. The original value of the fixed assets of the Company on 31st March, 1957 was Rs. 68·18 lakhs and the written down value Rs. 40·05 lakhs. Its reserves on 31st March, 1957 were as follows:—

	Rs. in lakhs	Rs. in lakhs
General Reserve . . . . .		20
Specific Reserves :		
For Dividend Equalisation . . . . .	6·00	
For Deferred Taxation . . . . .	6·25	
	<hr/>	12·25
<b>TOTAL</b>		<b>32·25</b>

The average number of employees of the factory during the first quarter of 1957 was 485 made up of 288 workers, 80 subordinate staff and 2 officers on the production side, 92 subordinate staff and 5 officers on the administration side and 17 subordinate staff and 1 officer on the sales and distribution side.

7.5.1. *Electrical Manufacturing Co. Ltd., Calcutta.*—This is a public limited Company registered in West Bengal in 1953 with its factory located at Dum Dum (Calcutta). Its authorised capital as on 31st May, 1956 was Rs. 25 lakhs and paid up capital Rs. 10·05 lakhs of which preference shares accounted for Rs. 0·95 lakhs and ordinary shares Rs. 9·10 lakhs. The entire share capital is held by Indians. The Company is managed by a Board of Directors. It commenced production of A. C. S. R. and all aluminium conductors in October, 1954. In addition, it produces accessories for transmission and distribution of electricity and ground wire.

7.5.2. The original value of the fixed assets of the Company on 30th May, 1956 was Rs. 9·58 lakhs and the written down value Rs. 7·78 lakhs. The Company has set aside Rs. 1·58 lakhs as reserve for depreciation till 31st May, 1956. The number of employees is 193 consisting of 20 officers, 81 staff and 92 workers.

7.6.1. *Jaipur Metals and Electricals Ltd., Jaipur.*—This is a public limited Company with an authorised capital of Rs. 50 lakhs and paid up capital of Rs. 21·32 lakhs as on 31st December, 1955. About 95 per cent. of the capital is held by Indians. It is managed by Managing Agents, Messrs. Poonamchand and Bros. Private Ltd., who draw remuneration at ten per cent. of the net profits of the company. The factory which is located at Jaipur, commenced production in 1950. Besides hard drawn bare solid copper conductors and cadmium copper wires, the Company manufactures electrolytic copper rods and strips, arsenical copper rods, steel rolled rods, bronze wires for telegraph and telephones, non-ferrous metals and alloys and electric house service meters. For the manufacture of electric house service meters, it has entered into technical collaboration with Fuji Denki Seizo Kabushiki Kaisha, Tokyo.

7.6.2. The original value of the fixed assets of the Company on 31st December, 1955 was Rs. 28·90 lakhs and the depreciated value Rs. 19·23 lakhs. Its reserves on 31st December, 1955 were as follows :—

	Rs. in lakhs	Rs. in lakhs
General Reserves . . . . .		0·50
Specific Reserves:		
For dividend equalisation . . . . .	0·15	
For Debenture redemption . . . . .	2·28	
		2·43
<b>TOTAL</b>		<b>2·93</b>

The average number of employees at the factory during the first quarter of 1957 was 369 made up of 293 workers, 8 subordinate staff and 7 officers on the production side, 30 workers, 20 subordinate staff and 8 officers on the administration side and 2 subordinate staff and 1 officer on the sales and distribution side.

7.7.1. *Hindustan Electric Co. Ltd., Bombay.*—This Company was floated as a private limited company but later converted into a public limited concern in 1949. The authorised capital of the company was Rs. 125 lakhs and paid up capital Rs. 49·92 lakhs as on 30th April, 1956. On that date the issued and subscribed capital consisted of ordinary shares for Rs. 40 lakhs and 6 per cent. tax-free cumulative preference shares for Rs. 10 lakhs. Subsequently preference shares were increased to Rs. 20 lakhs. According to the Company's memorandum the present share capital (paid up) is Rs. 58·22 lakhs. The entire share capital is held by Indians. Its factory is located in the industrial township of Faridabad (East Punjab). It is managed by Managing Agents, Dharmsinh and Co. The Company has entered into an agreement with Messrs. Ab-Svenska Metallerken of Sweden for technical assistance in respect of the manufacture of conductors. It commenced production in 1955. Apart from A.C.S.R. and all aluminium conductors, the Company manufactures conductor accessories for transmission and distribution lines. The Company has been licensed to start a second factory for the manufacture of aluminium conductors at Ulhasnagar (near Bombay City).

7.7.2. The original value of the Company's fixed assets on 30th April, 1956 was Rs. 73·96 lakhs and the written down value Rs. 66·70 lakhs. According to its balance sheet dated 30th April 1956 the Company had Rs. 2 lakhs in General Reserve. The average number of employees at the factory during the first quarter of 1957 was 538 made up of 163 workers, 30 Supervisors, 4 Managerial staff, 56 clerical staff and 20 Trade Apprentices.

7.8.1. *National Screw and Wire Products Ltd., Calcutta.* This is a public limited company with its factory located at Belur (near Calcutta). The authorised capital was Rs. 20 lakhs in ordinary shares only and the paid up capital Rs. 10 lakhs as on 31st December, 1955. The entire capital is held by Indians. The factory commenced production in July 1951 and has been manufacturing hard drawn bare copper conductors, solid and stranded. It has also plans for manufacturing A.C.S.R. and has received the requisite licence from Government.

7.8.2. The original value of the fixed assets of the Company on 31st December, 1955 was Rs. 10·51 lakhs and the written down value Rs. 5·59 lakhs. The average number of employees in the factory during the first quarter of 1957 was 145 made up of 120 workers, 12 subordinate staff and 5 officers on the production side, 2 subordinate staff and 2 officers on the administration side and 1 subordinate staff and 3 officers on the sales and distribution side.

7.9. *Jayant Metal Manufacturing Co., Bombay.*—This is a proprietary concern and the factory is located in Bombay. The Company, which commenced production in 1951, gets its electrolytic copper rods

rolled at the Sewree Iron and Steel Co., which is situated in the same premises. Apart from the manufacture of solid bare copper conductors, solid, it produces copper strips, copper arsenical rods, brass rods, builders' hardware, etc. The average number of employees in the factory in the first quarter of 1957 was 289 made up of 235 workers, 21 subordinate staff and 5 officers on the production side, 17 subordinate staff and 3 officers on the administration side and 3 officers on the sales and distribution side.

**7.10. Devidayal Cable Industries Private Ltd., Bombay.**—This is a private limited company registered at Bombay in January, 1953. Its factory is located in Bombay City. The authorised capital is Rs. 25 lakhs and paid up capital Rs. 6.47 lakhs. The Company started manufacturing wires in June, 1953 and hard drawn bare copper conductors in 1956. Apart from hard drawn bare copper conductors, it produces super (synthetic) Enamelled wires, Plan (Oleo Resinous), Enamelled wires, Enamelled single cotton wires, double cotton covered wires, bare copper aerial wires and stranded aerial wires. The company has also received a licence to manufacture A.C.S.R. cables. The average number of employees in the factory during the first quarter of 1957 was 167 made up of 164 workers and 3 officers.

**7.11.** The present position is that there are 9 units on the register of the Development Wing out of which 6 are engaged in the manufacture of bare copper conductors and 5 in the manufacture of all aluminium conductors and A. C. S. R. Two manufacturers produce both copper conductors and aluminium conductors. Seven companies are public limited companies, one is a private limited company and the other a proprietary concern. Three of the units have entered into long-term technical collaboration with foreign concerns. In addition, Aluminium Industries and Hindustan Electric Co., Ltd., have been licensed to establish a second factory each for the manufacture of aluminium conductors. Both these factories are expected to commence production in 1959. Devidayal Cable Industries Private Ltd. and National Screw and Wire Products Ltd. which are at present engaged in the manufacture of copper conductors have also been granted licences to undertake the manufacture of A. C. S. R. They are expected to commence production in 1958.

**7.12.** We are informed that licences have also been granted to the following two units to establish factories for the manufacture of A. C. S. R. and all aluminium conductors:—

(1) *Aluminium Corporation of India Ltd., Calcutta.*—The Company's plant is proposed to be located in its factory at Jaykaynagar and production expected to commence in 1960. Its annual capacity will be in the region of 2,400 tons per annum on double shift. It is understood that the Company is negotiating with Messrs. Komplex Hungarian Trading Co., Budapest for technical collaboration.

(2) *Anam Electrical Manufacturing Co., Kadiam (Andhra Pradesh).*—Production is expected to commence in 1958 and the capacity is likely to be of the order of 1,500 tons per annum on single shift. We are also informed by the Development Wing that a few other schemes which have been approved by the Licensing Committee are under consideration of Government with regard to the terms regarding deferred payments.



7.13. The Development Commissioner, Small Scale Industries, New Delhi has informed us that since his organisation has not made any survey of the copper conductors and A. C. S. R. industry, he is not in a position to furnish any information regarding the small scale sector of the industry. We are, however, informed that the following seven units are manufacturing bare copper conductors:—

1. National Wire and Metal Industries, Bombay (Factory at Surat).
2. Jariwala Ishverlal Jekisandas and Co., Bombay.
3. Patel Metal Works, Bombay.
4. Jyoti Wire Industries, Bombay.
5. Laxmi Cables (India), Bombay.
6. Ram Kishan Metal Works, Bombay.
7. Vidyut Copper Conductors Ltd., Surat.

The representatives of some of the above units attended our public inquiry. The representative of Jariwala Ishverlal Jekisandas and Co., stated that he had a capacity of 100 tons a month for the production of bare hard drawn copper conductors in sizes varying from 7/0 to 20 S. W. G. and conforming to B. S. Specification. He claims to have been supplying his products to Government Departments. The representative of Patel Metal Works, Bombay, stated that his company had been producing 40 to 50 tons per month of bare copper conductors of sizes varying from 1 to 10 S. W. G. and that the entire product was being sold in the open market. Both these concerns claimed to be employing less than 50 workers.

7.14. A Development Council for Heavy Electrical Industries was set up in February 1955. Electric cables and wires industry comes within the purview of this Council.

8.1. There are wide discrepancies between the capacities claimed by certain producers in their memoranda to the Commission and those furnished by the Development Wing. The representative of the Development Wing who attended the public inquiry stated that his figures were based on assessment made after actual inspection of the units and having regard to the pattern of production of each unit and other relevant factors, but did not include the wire drawing capacity in respect of wires which are not ultimately sold as conductors. The industry on the other hand, had furnished figures on the basis of their overall capacity. It is essential to evolve a formula with which it would be possible to determine the capacity of each unit, for, it has been found in quite a few cases where the installed capacity was stated to be fairly high, the actual performance resulted only in fifty or sixty per cent. production. There is, therefore, need for a re-assessment of the installed capacity of each unit, having regard to all the relevant factors. We recommend, therefore, that the Development Wing should take steps to re-assess and accurately determine the capacity of individual units in consultation with the Development Council for Heavy Electrical Industries.

8.2. Appendix III shows the annual capacity on single shift basis of the 9 units as finally agreed to at the public inquiry and their production during each of the years, 1954, 1955, 1956 and the first six months of 1957. The capacity assessed on single shift aggregates 11,900 tons in the case of bare copper conductors and 6,360 tons in the case of all aluminium conductors and A.C.S.R. Most of the units are working to full capacity; some are working on double and triple shifts.

8.3. The following table gives details of new or additional capacity licensed:—

	Expansion or new unit	New or additional capacity licensed Tons
<i>Copper conductors.—</i>		
National Screw and Wire Products Ltd.	Expansion	1,200 (on single shift).
<i>Aluminium conductors.—</i>		
1. Aluminium Industries Ltd., (Hirakud unit).	New unit	3,600 (on 3 shifts) (or 1,200 tons on one shift).
2. Hindustan Electric Co. Ltd., (Ulhasnagar unit).	Do.	5,000 (on 3 shifts) (or 1,667 tons on one shift).
3. National Screw and Wire Products Ltd.	New (for aluminium conductors).	1,200 (on single shift).
4. Devidayal Cable Industries Private Ltd.	Do.	900* (single shift).
5. Aluminium Corporation of India Ltd.	New unit	2,400 (on double shift) (i.e. 1,200 tons on single shift).
6. Anam Electrical Mfg. Co.	Do.	1,500 tons (on single shift)

\*In the case of this unit, the present capacity licensed is 900 tons (single shift) for copper conductors/A.C.S.R. At present the unit is manufacturing only copper conductors. It proposed to instal additional machinery for manufacture of A.C.S.R. and approach Government in due course for a fresh licence.

When the above plans materialise the annual licensed capacity on single shift for bare copper conductors will go up to 13,100 tons and that for A. C. S. R. and A. A. C. to 14,000 tons.

9.1. In its report of 1946 the Tariff Board had estimated the annual demand for bare copper conductors at 10,000 tons. It did not estimate the demand for A. C. S. R. and all aluminium conductors. In connection with the present inquiry we have received varying estimates of demand. The Planning Commission estimated the consumption of bare copper conductors and A. C. S. R. during 1955-56 at 8,700 tons and 9,000 tons respectively and expected that the annual demand would increase by 1960-61 to 10,000 tons for copper conductors and 18,000 tons for aluminium conductors. We

are informed that the Development Council for Heavy Electrical Industries is of the view that the demand for copper conductors would go up to 15,000 tons a year by 1960-61. As regards A. C. S. R. and all aluminium conductors, the Council has estimated the current demand at 18,000 tons a year and it expects it to rise to 20,000 tons a year by 1960-61. According to the Development Wing the current demand for bare copper conductors could be placed at 10,000 tons per annum. As regards the future demand for copper conductors and the current and future demands for aluminium conductors, the Development Wing has agreed with the estimates of the Development Council. The Central Water and Power Commission has furnished us with its estimates of demand for aluminium conductors on the basis of the data obtained by it from the various power projects. Its estimates of annual demand up to 1960-61 are given below:

	(In tons)			
	1957-58	1958-59	1959-60	1960-61
A.C.S.R.	16,199	19,195	14,128	10,230
A.A.C.	6,582	7,208	6,404	6,172
<b>TOTAL</b>	<b>22,781</b>	<b>26,403</b>	<b>20,532</b>	<b>16,402</b>

It expects the demand to decline from 1959-60 as the various projects will be nearing completion by that time. It has, however, suggested that it would be more realistic to proceed on the basis of average annual demand over the next four years rather than attempt to estimate the annual demand for each year, as there is a likelihood of the projects getting delayed due to shortages of foreign exchange for the import of plant and machinery and construction materials like steel and cement. According to the Central Water and Power Commission the average annual demand would be 14,900 tons for A. C. S. R. and 6,500 tons for all aluminium conductors. The estimates received from the producers show wide variations. For copper conductors, the estimates vary between 3,030 to 10,100 tons for the current year and from 4,560 to 14,100 tons for 1960-61. Similarly, for aluminium conductors the estimates vary from 3,250 tons to 16,000 tons for the current year and from 10,000 to 21,000 tons for 1960-61.

9.2. In this connection, it may be interesting to see the trend of domestic production and imports, the total of which will give an approximate idea of the trend of demand during the past two years.

Year	Bars copper conductors (including cadmium copper conductors and copper-weld wires)			Aluminium conductors (A.C.S.R. and all aluminium conductors)		
	Indigenous production	Imports	Total	Indigenous production	Imports	Total
1955	8,102	310	8,412	9,587	259	9,846
1956	10,702	616	11,318	12,625	1,622	14,247
<b>Total for 2 years</b>	<b>18,804</b>	<b>926</b>	<b>19,730</b>	<b>22,212</b>	<b>1,881</b>	<b>24,093</b>
<b>Annual average</b>	<b>9,402</b>	<b>463</b>	<b>9,865</b>	<b>11,106</b>	<b>940</b>	<b>12,046</b>

The figures of production included in the above statement relate to 9 licensed units as furnished by the companies. They do not include the production of small manufacturers. The figures of imports are those recorded in the "Accounts relating to the Foreign Trade of India" published by the Director General of Commercial Intelligence and Statistics.

9.3. The various estimates of domestic demand were discussed at the public inquiry. We were informed that there has been a shift in demand for copper to aluminium conductors on account of the latter being cheaper and this shift has persisted even though recently the price of copper has declined substantially. It should be noted, however, that though the conductivity of aluminium is about two-thirds of copper, aluminium is lighter and its density is equal to about a third of copper. Accordingly, taking a ton of metal, it is possible to draw out double the length of wires of aluminium having equivalent conductivity. After consideration of all relevant factors we estimate that the demand for copper conductors would not exceed 10,000 tons during the current year. As regards aluminium conductors, we are of the view that the current demand would be of the order of 15,000 tons. As regards future demand, it was realised that it would depend on a number of factors such as the rate of generation of electricity, completion of several multi-purpose projects and relative availability of the principal raw materials. After taking into account these factors, we estimate that the annual demand in 1960-61 would continue at 10,000 tons for copper conductors but go up to 20,000 tons for aluminium conductors. These estimates do not, however, take into account the demands likely to arise from Railway electrification schemes, which, we understand, have not yet been finalised.

10.1. The principal raw materials required by the industry are:

- |  |   |
|--|---|
| <b>Raw materials and consumable stores</b> | (a) Electrolytic copper wire bars for the manufacture of electrolytic copper rods;                                  |
|  | (b) Cadmium;  |
|  | (c) Copper-weld rods for the manufacture of copper-weld wires;  |
|  | (d) Electrolytic aluminium ingots/bars or rods for the manufacture of A. C. S. R. and all-aluminium conductors; and |
|  | (e) High tensile galvanised steel wire for the manufacture of A. C. S. R.   |

The consumable stores required are soap flakes, soft soap, rapeseed oil, mutton tallow, shell carbule grease, sulphuric, tartaric and lactic acids, glycerine, graphite powder, suet, tungsten carbide and diamond dies and rolls.

10.2. There is no indigenous manufacture of electrolytic copper wire bars, cadmium, high tensile galvanised steel wire, tungsten carbide and diamond dies and rolls. The entire requirements of the industry for these materials are met by imports. We are informed that a licence has been granted to Indian Copper Corporation Ltd. to set up an electrolytic plant at Ghatsila for the manufacture of electrolytic wire bars with an annual capacity of 8,400 tons a year. The project is reported to be in the hands of its consultants for drawing up detailed plans and designs. We also understand that

Kamani Brothers Private Ltd., Bombay has plans to produce electrolytic copper by using imported blister copper. The capacity aimed at is stated to be 10,000 tons a year.

10.3. As regards the manufacture of electrolytic copper rods the position is as stated below. Indian Cable Co. which has installed a rod mill is manufacturing rods (both copper and aluminium) for its own use and for supply to other manufacturers of electric wires. Its capacity is 9,600 tons a year on single shift. Jayant Metal Mfg. Co. has a copper rod mill with a capacity of 120 tons per annum on single shift. Devidayal Rolling and Refineries Private Ltd. has also installed a rod mill with a licensed capacity of 12,000 tons per annum on two shifts for rolling electrolytic copper rods. Jaipur Metals and Electricals Ltd., also produces its own requirements of electrolytic copper rods from imported wire bars. National Insulated Cable Co. of India Ltd., has been granted a licence for the manufacture of electrolytic copper rods with an annual capacity of 9,000 tons on single shift. After this company goes into production, the total capacity in the country for rolling electrolytic copper rods would be of the order of 25,000 tons per annum on single shift. This capacity is expected to meet the entire requirements of the Copper Conductors Industry.

10.4. Copper-weld rods are imported from U.S.A. They are manufactured by a patented process by Copper-Weld International Corporation. It is not known whether this patent is still alive, but no attempt has been made by the Indian industry to manufacture these rods under a licence from the patentee or to develop an alternative process of manufacture.

10.5. As regards aluminium ingots, only a small quantity of ingots is supplied by Indian Aluminium Co. Ltd., Calcutta, from its works at Alwaye, to the Aluminium Industries Ltd., Kundara. Otherwise, practically the entire requirement is met by imports. Indian Aluminium Company expects to increase its supplies of electrolytic aluminium ingots to about 4,000 tons a year, when its new smelter of 10,000 tons capacity at Hirakud goes into regular production. This will meet only a fraction of the requirements of the industry which will, therefore, remain dependent for a considerable time to come on imports for its main raw material. There are only two units at present manufacturing electrolytic aluminium rods in the country, namely, Indian Cable Co. Ltd., and Aluminium Industries Ltd., and their annual capacities on three shifts are stated to be 6,000 tons and 2,400 tons respectively. The total consumption of all the five units which are at present engaged in the manufacture of aluminium conductors was of the order of 9,500 tons of rods during 1956. The Development Wing has informed us that the following three units have been licensed to produce electrolytic aluminium rods and they are expected to go into production in 1958.

	Capacity licensed (tons)
1. Aluminium Industries Ltd. (at its new factory to be established at Hirakud).	3,600 (3 shifts)
2. Electrical Manufacturing Co. Ltd. . . . .	3,000 (3 shifts)
3. National Insulated Cable Co. of India Ltd. . . . .	3,000 (single shift)

When these schemes materialise the total installed capacity (three shifts) for the manufacture of electrolytic aluminium rods will amount to about 24,000 tons.

10.6. High tensile galvanised steel wire is not produced in the country. The Iron and Steel Controller has informed us that there are at present no plans for its manufacture. But we are informed by Aluminium Industries Ltd., that it has submitted proposals to Government for a licence to erect a plant with a capacity of 6,000 tons for the manufacture of these wires.

10.7. *Import control policy on raw materials since 1st January, 1954:—*

10.7.1. Electrolytic copper wire bars were on Open General Licence up to 30th June, 1957. During the period July/September, 1957 provision was made for application from established importers being dealt with on an *ad hoc* basis. For the period October, 1957—March, 1958, a quota of 85 per cent. (General) and 85 per cent. (soft currency) is fixed for established importers and licences are to be granted on the basis of twelve months entitlement.

10.7.2. Electrolytic Copper rods and electrolytic copper weld-rods: The quota for established importers was 25 per cent. of one half of best year's imports during January-June, 1954, 75 per cent. during July-December, 1954, 100 per cent. during the subsequent licensing periods up to 31st December, 1956 and 75 per cent. during the licensing period January-June, 1957. From 1st July, 1955 to 31st December, 1956 actual users applications were considered on an *ad hoc* basis. For the quarter July-September, 1957, imports by established importers were banned but provision was made for the issue of *ad hoc* licences to actual users. During the period October, 1957—March, 1958 a quota of 25 per cent. (soft currency) is allowed to established importers.

10.7.3. Aluminium wire bars having purity of 99.5 per cent. or above for the manufacture of electrical conductors were on O.G.L. up to 30th June, 1957. For the quarter July-September, 1957 provision was made for the issue of *ad hoc* licences to actual users. During the period October, 1957—March, 1958 a quota of 10 per cent. (General) and 10 per cent. (soft currency) is allowed to established importers.

10.7.4. Electrolytic aluminium rods: The quota for established importers was 75 per cent. of one-half of best year's imports during each of the licensing periods from January-June, 1954 to July-December, 1956 and was reduced to 60 per cent. during January-June, 1957. During the quarter July-September, 1957 imports by established importers were banned but provision was made to issue import licences to actual users. Established importers are given a quota of 7½ per cent. (soft currency) for the period October, 1957—March, 1958.

10.7.5. High tension galvanised steel wire: We are informed by the Iron and Steel Controller that this item was licensed freely prior to January, 1957. Thereafter, in view of the stringent foreign exchange position, free licensing was suspended from 16th January, 1957 and licences were issued to actual users only to the extent of their three

months' requirements as certified by the sponsoring authority. The manufacturers have, however, brought to our notice, delay in the issue of licences.

10.7.6. As regards consumable stores, baring tungsten carbide and diamond dies and rolls, other items are available indigenously. Imports of tungsten carbide and diamond dies and rolls are allowed to actual users.

11.1. We have not received any serious complaints in regard to the quality of indigenous conductors. It is generally admitted that they are in no way inferior to similar imported products. There were, however, a few complaints about the stranding in respect of stranded conductors. We were not informed about the source from which those conductors were obtained. It is likely that they were manufactured by small producers who do not have the necessary equipment for stranding and were marketed through dealers. The fact that the major producers have already obtained licences for the use of I. S. I. Certification Marks or have applied for licences to use these Marks, indicates that they are anxious to ensure the quality of their products. The Indian Standards Institution has finalised standard specifications for the following items:

Hard drawn copper solid and stranded circular conductors for overhead power transmission purposes. . . . . I.S. 282 of 1951.

Hard drawn stranded aluminium and steel-cored aluminium conductors for overhead power transmission purposes. . . . . I.S. 398 of 1953.

The Institution has also informed us that the question of formulating standard specification for cadmium copper conductors has been accepted by its Electrical Conductors and Insulators Sectional Committee. As regards copper-weld wires, a proposal for formulating standards has been received from the Posts and Telegraphs Department and is under consideration of the Institution.

11.2. We give below the names of the units which are using I.S.I. Certification Marks and those which have applied for licences to use the Certification Marks:—

*Names of the units which are using I.S.I. Certification Marks*

Name	Products
Indian Cable Co. Ltd . . . . .	Bare copper conductors and aluminium conductors.
Aluminium Industries Ltd. . . . .	Aluminium conductors.
Jayant Metal Manufacturing Co. . . . .	Bare copper conductors.
Electrical Manufacturing Co. Ltd. . . . .	Aluminium conductors.

*Names of units which have applied for licences*

Name	Products
National Insulated Cable Co. of India Ltd.	Bare copper conductors and aluminium Conductors.
Devidayal Cable Industries (Private) Ltd.	Bare copper conductors.

Indian Cable Co. Ltd. and National Insulated Cable Co. of India Ltd., have also made arrangements with the Inspectorate in the office of the Director General of Supplies and Disposals, for daily inspection of the quality of their products. There are, however, a number of units which have neither made an agreement with the D. G. S. and D. for regular inspection nor obtained licences for use of I. S. I. Certification Marks. We were informed that the Directorate General of Supplies and Disposals is watching the operation of the I. S. I. Certification Marks Scheme and will, in due course, consider the possibility of reducing its inspection of the goods marked with I. S. I. Certification Marks. As we have stated above, the largest consumers of copper and aluminium conductors are the Central and State Governments, Power Project Authorities and Electricity Supply Undertakings. We are of the view that they should insist on the I. S. I. Certification Marks on the materials they purchase because the dangers in accepting sub-standard products to human safety and life are considerable. Since certification marks indicate that the quality of the products has been certified by an independent technical body, we recommend that all units producing bare copper and aluminium conductors should take immediate steps to obtain licences for I. S. I. Certification Marks and market their products under those marks.

11.3. *Research.*—Research laboratories are not in existence in any of the units. However, arrangements exist in all factories for routine testing of raw materials and finished products. Those units which have entered into technical collaboration with foreign firms refer to their Associates such technical problems as require detailed investigation and study. It may not be possible for other units to set up their own research laboratories and they may have to depend on some of our National Laboratories for help and guidance. Representatives of the industry who were present at the public inquiry were somewhat sceptical of the extent to which our National Laboratories would be in a position to help them in solving their technical problems, but agreed to co-operate in establishing a liaison with them if the good offices of the Council of Scientific and Industrial Research were available in the process.

12.1. *Import control policy.*—Bare hard drawn copper conductors, solid and stranded, fall under serial No. 43(a) of Part II of the Import Trade Control Schedule. Their imports were completely banned during the last few years. Cadmium copper conductors, copper weld wires, A. C. S. R. and all aluminium conductors are embraced by serial No. 43(g) of Part II of the I. T. C. Schedule. Imports by established importers were

**Import control  
policy and imports**



allowed up to the licensing period January-June, 1957 to the extent of 10 per cent. of one half of best year's imports. There was no provision for the issue of actual user's licences for these conductors, but since the domestic industry was heavily booked and was unable to cope with demand in the country, *ad hoc* licences were, we understand, issued from time to time to certain State Governments and Public Electricity Supply Undertakings for import of A. C. S. R. and A. A. C. in order to meet urgent demands. Import was banned during the quarter July-September, 1957 and the position remains unaltered during the current licensing period October, 1957—March, 1958.

12.2.1. *Imports.*—From April, 1954 to the end of 1956 imports of copper and aluminium conductors used to be recorded in the published 'Accounts relating to the Foreign Trade of India' under the following two heads :—

- (i) Bare copper conductors of all types,
- (ii) Plain aluminium conductors and A. C. S. R.

Imports were not recorded country-wise. The import of these two groups of conductors for the last three years was as follows:—

	Bare copper conductors of all types		Plain aluminium conductors and A.C.S.R.	
	Quantity (in tons)	Value (lakh Rs.)	Quantity (in tons)	Value (lakh Rs.)
1954 (April—December) . . . . .	39.55	2.50	295.20	9.35
1955 . . . . .	309.95	17.08	258.95	10.10
1956 . . . . .	615.85	30.00	1,621.95	53.43

12.2.2. We observe that provision has been made for recording in greater detail with effect from January, 1957 the imports of electrical conductors in the enlarged 'Monthly Statistics of the Foreign Trade of India' published by the Director General of Commercial Intelligence and Statistics, Calcutta. The relevant detailed heads are as follows:—

1. Bare copper solid conductor for telegraph.
2. Bare hard drawn copper solid conductor.
3. Hard drawn bare copper conductor stranded.
4. Bare copper-weld wire.
5. Bare aluminium wire solid hard drawn.
6. Hard drawn bare aluminium conductor stranded.

Imports for the first six months of 1957 were as follows:—

Name of the article	Quantity (Tons)	Value (lakh Rs.)
<i>(A) Copper Conductors:</i>		
(i) Bare copper solid conductor for telegraph . . . . .	55.15	2.02
(ii) Bare hard drawn copper solid conductor . . . . .	11.35	0.71
(iii) Hard drawn bare copper conductor stranded . . . . .	25.55	3.09
(iv) Bare copper-weld wire . . . . .	1.15	0.05
TOTAL OF (A)	93.20	5.87
<i>(B) Aluminium Conductors:</i>		
(i) Hard drawn bare aluminium conductor stranded (A.C.S.R.)	3,253.45	113.98
(ii) Bare aluminium wire solid hard drawn . . . . .	6.70	0.69
TOTAL OF (B)	3,260.15	114.67

13.1. *Export control policy.*—The export control policy for the different types of bare copper conductors, A. C. S. R. and all aluminium conductors since January, 1954 is given below:—

**Export control policy and exports**

*Solid bare copper conductors and copper-weld wires.*—Exports were licensed freely during 1954. In the first half of 1955, exports were allowed on an *ad hoc* basis up to 2nd March, 1955. Thereafter exports were banned.

*Stranded bare copper conductors.*—Exports were licensed freely during 1954. They were banned from January, 1955.

*Cadmium copper conductors.*—Exports have been banned during the last three years.

*A. C. S. R.*—Exports were freely licensed all through.

*All aluminium conductors.*—Exports were not allowed up to 13th February, 1956 and thereafter the articles have been placed on free licensing list.

13.2. *Exports.*—No export of A. C. S. R. or all-aluminium conductors has so far been made even though there is no ban on their export. The reasons seem to be that indigenous manufacturers have not been interested in exports in the past since they were unable to satisfy the domestic demand adequately. The cost of production of A. C. S. R. and all aluminium conductors was also higher than the prices of imported products. As regards copper conductors (solid or stranded) and cadmium copper conductors, we understand that when their export was banned in 1955, copper was in extreme short supply all over the world and prices were very high. The position, however, is not so at present. There is no dearth of supplies of electrolytic copper or cadmium in the International market and prices

have also come down to a reasonable level. There is also no dearth of supplies of copper conductors in the domestic market. In the circumstances we feel that steps should be taken to explore the possibility of exports of copper and cadmium conductors. We recommend, therefore, that the existing ban on bare copper conductors and cadmium copper conductors should be lifted and that the industry should endeavour to export those products to neighbouring countries.

**Existing rates of duty** 14.1. *Import duty on raw materials.*—The following table indicates the current rates of customs duty on the various raw materials and consumable stores required by the industry:—

Name of the raw material	Item No. of Indian Customs Tariff	Nature of duty	Current rate of duty
1. Electrolytic copper wire bars . . . . .	64(2)	..	Free.
2. Electrolytic copper rods or black coppers rods (in coils) —			
(a) of British manufacture . . . . .	64(4)	Protective	25 per cent. <i>ad valorem</i> .
(b) not of British manufacture . . . . .	„	Protective	35 per cent. <i>ad valorem</i> .
*3. Electrolytic Aluminium ingots, bars . . . . .	66(1)	Protective	35 per cent. <i>ad valorem</i> .
*4. Electrolytic Aluminium rods . . . . .	66(b)	Revenue	35 per cent. <i>ad valorem</i> .
†5. High tensile galvanised steel wire—			
(a) of British manufacture . . . . .	63(32)	Revenue	Rs. 50/- per ton.
(b) not of British manufacture . . . . .	„	Revenue	Rs. 85/- per ton.
6. Copper-weld rods . . . . .			
(a) of British manufacture . . . . .	64(3)	Protective	40 per cent. <i>ad valorem</i> .
(b) not of British manufacture . . . . .	„	Protective	50 per cent. <i>ad valorem</i> .
7. Tungsten carbide and diamond dies . . . . .	72(3)	Revenue	10 per cent. <i>ad valorem</i> .
8. Rolls . . . . .	72(3)	Revenue	10 per cent. <i>ad valorem</i> .

\*Manufacturers of A.C.S.R. have been granted partial remission of duty on aluminium ingots/bars and rods imported by them. They pay a duty of 15 per cent. *ad valorem* in respect of ingots and bars and 17½ per cent. *ad valorem* in respect of rods. These concessions are not available at present to manufacturers of all-aluminium conductors who are liable to pay the full duty of 35 per cent. *ad valorem*.

†High tensile galvanised steel wire containing 0·6 per cent. or above of carbon is assessable under I.C.T. item No. 63(32), but if the percentage of carbon in the wire is slightly lower, say 0·5 or 0·55 per cent. the wire becomes liable under item No. 63(25) to a duty of the 25 per cent. *ad valorem* or 25 per cent. *ad valorem plus* Rs. 35/- per ton according as it is of British manufacture or not.

14.2. *Import duty on finished products.*—The current rates of duty on bare copper and aluminium conductors are stated below:—

Name of the article	Item No. of Indian Customs Tariff	Nature of duty	Current rate of duty
1. Bare copper conductors (solid or stranded) .	72(12)	Protective	35 per cent. <i>ad valorem</i>
2. Cadmium copper conductors:			
(a) If the sectional area of copper wires of equivalent conductivity is $\frac{1}{80}$ th of a square inch and over . . . . .	72(c)	Revenue	10 per cent. <i>ad valorem</i>
(b) If the sectional area of copper wires of equivalent conductivity is less than $\frac{1}{80}$ th of a square inch . . . . .	73(1)	Revenue	40 per cent. <i>ad valorem</i> . (standard). 30 per cent. <i>ad valorem</i> . (preferential).
3. Copper-weld wires:			
(a) If the sectional area of copper wires of equivalent conductivity is $\frac{1}{80}$ th of a square inch and over . . . . .	72(c)	Revenue	10 per cent. <i>ad valorem</i>
(b) If the sectional area of copper wires of equivalent conductivity is less than $\frac{1}{80}$ th of a square inch . . . . .	73(1)	Revenue	40 per cent. <i>ad valorem</i> . (standard). 30 per cent. <i>ad valorem</i> . (preferential).
4. A.C.S.R. . . . .	72(12)	Protective	35 per cent. <i>ad valorem</i> .
5. All-Aluminium conductors:			
(a) If the sectional area of copper wires of equivalent conductivity is $\frac{1}{80}$ th of a square inch and over . . . . .	72(c)	Revenue	10 per cent. <i>ad valorem</i> .
(b) If the sectional area of copper wires of equivalent conductivity is less than $\frac{1}{80}$ th of a square inch . . . . .	73(1)	Revenue	40 per cent. <i>ad valorem</i> . (standard). 30 per cent. <i>ad valorem</i> . (preferential).

It would appear that tariff anomaly exists—

- (i) Between copper-weld rods and copper-weld wires referred to at 3 above.
- (ii) Between electrolytic aluminium ingots/bars and rods and all-aluminium conductors referred to at 5 above.

14.3. We are informed that the Development Council for Heavy Electrical Industries has expressed the view that the anomaly referred to at (ii) above has placed the domestic manufacturers of all-aluminium conductors under a handicap and they are, therefore, unable to quote competitive prices. The Council has recommended that such manufacturers should be given relief in respect of import duty on aluminium ingots/bars and rods in the same way as manufacturers of A. C. S. R. The Council has also recommended that all-aluminium conductors should be taken away from item No. 72(e) of the Indian Customs Tariff and transferred to item No. 72(12) in order to make the imported conductors liable, like A. C. S. R., to a duty of 35 per cent. *ad valorem*.

15.1. Before proceeding to discuss matters relating to costs of production, estimated fair ex-works prices and quantum of protection, we propose, in this **Selling arrangements and selling prices** paragraph (a) to review the industry's selling arrangements and selling prices (b) to review the financial results of the working of certain units in the industry and (c) to focus attention on the measures that would have to be adopted to ensure that the industry fulfils its obligations to consumers. It will be seen later that our observations in this paragraph have an important bearing on the formulation of our recommendations relating to the scheme of protection for the industry.

15.2.1. The products manufactured by the electrical conductors industry are sold mainly to a few large buyers like the Union and State Governments, Power Projects, Railways and Electricity Supply Undertakings. Intermediate dealers handle only a small portion of the products as sales are mostly effected direct to the large buyers referred to above. For instance, Indian Cable Company has a network of branches in the country, while a few other units have appointed sole selling agents, but these branches and agents mostly perform work connected with the realisations of bills, and act as liaison between the units and their customers. Generally, there were no complaints against the activities of branches, agents or dealers. The bulk of the production of copper and aluminium conductors is made against specific contracts entered into after acceptance of tenders, and little for shelf stocks or sales. The demand for aluminium conductors is reported to have outstripped production; orders are booked several months ahead and the time taken for delivery has often reached ten to twelve months. The position relating to copper conductors is reported to be relatively easy, but the fact that no unsold stocks have been held by any of the producers indicates that their production schedules are very evenly spread.

15.2.2. None of the manufacturing units maintains a published price list for aluminium or copper conductors. Tender quotations are submitted to indentors on the basis of the prevailing price of

the metal (copper or aluminium) adding thereto the cost of fabrication and other charges. The "basis price", which is linked with the price of the metal, is liable to modification in accordance with an escalator clause providing for variation in the prices of the raw materials. We understand that if there was a fall in the prices of metal during the interval between the bidding of tenders and the acceptance of quotations, the resultant benefit was passed on to the consumers. We were further assured that there was no system of common prices with uniform conditions of sales and that each producer was free to quote his own prices. Varying systems of quotations would appear to exist among producers depending on the nature of the product sold. For example, the quotations of the National Insulated Cable Co. of India Ltd., for copper conductors are on the basis of f.o.r. destinations, while its quotations for A. C. S. R. and A. A. C. are ex-works only.

15.2.3. The Director General of Supplies and Disposals has stated that there was, till recently, evidence of healthy competition amongst the several producers and although quotations were invariably higher than the prices of imported products, they were not unreasonable. He has added, however, that lately he had noticed a somewhat unhealthy development amongst some of the producers indicative of the existence of price rings when tendering quotations against contracts.

15.2.4. The evidence obtained by us indicates that most consumers regarded prices of indigenous copper conductors to be not unreasonable, although they were higher than those of imported products. The views regarding A. C. S. R. and all-aluminium conductors were, however, very pronounced, to the effect that they were unreasonably high. The Chief Engineer for Electricity of Madras State, in particular, was very critical of the prices charged by all the producers for A. C. S. R. and all-aluminium conductors. In his view the claim of the producers that their prices were strictly related to metal cost was untenable in a large number of cases, and, consequently he made a vigorous plea for permitting imports of aluminium conductors with a view to keep indigenous prices under check. During the discussion of prices and deliveries at the public inquiry quite a number of consumers' representatives were found to be of opinion that the industry's performance in regard to deliveries was dilatory and, in regard to prices charged, was indicative of a large measure of complacency arising from the security afforded to it by import control. The situation is, to some extent, intriguing, especially when it is observed that the rate contracts are fixed primarily on the basis of metal price (for which accurate quotations should always be available) and the margin that is needed to provide for fabricating/conversion costs is very little in the case of copper conductors and only slightly more in the case of aluminium. In the absence of data relating to selling prices (for comparison with fair ex-works prices) we are unable to state whether the industry has been charging excessive prices and, if so, to reach any conclusions regarding the extent to which the prices charged by the individual units (whose cost data have been examined) are unreasonably high. We have, therefore, tried to examine the balance sheets of some of

the companies with a view to assessing their performance on certain broad and general considerations. The data collected from such examination is furnished in Appendix IV.

15.2.5. While inviting attention to the percentages of profits earned by the four companies costed we refer in particular to the percentages relating to Indian Cable Co. (ICCO) and National Insulated Cable Co. of India Ltd. (NICCO). The percentages of profit relating to gross block may be kept aside for the purpose of our assessment. Those relating to capital employed namely 30.71 per cent. for ICCO and 39.88 per cent. for NICCO are significant, and indicate that the profits must be considered to be on the high side, especially when they are viewed in conjunction with the percentages to sales turnover namely 20.28 per cent. for ICCO and 24.30 per cent. for NICCO. It will be seen that these two companies have made ample profits and have been able to build up very large reserves, and, at the same time, declare very liberal dividends. ICCO's dividend in 1955 aggregated 12½ per cent. and in 1956, 15 per cent., both tax-free. Likewise NICCO's dividend in 1955 aggregated 15 per cent., and in 1956, 20 per cent., both tax-free. In both cases the progressive improvement points to an extremely affluent position. As stated earlier, in the absence of data relating to selling prices for conductors it is difficult for us to ascertain how the large profits disclosed in the balance sheets have accrued to the companies. It is possible that these profits arose from sale of other products like insulated cables but it is equally conceivable that a substantial portion of the profits was available from fluctuations in prices of primary metal, or even from increased turnover. In connection with our inquiry into the Transformers Industry in 1952, we found, on examination, that both ICCO and NICCO were charging excessive prices on DCC and DPC wires. It was then easy to establish that the companies were charging excessive prices as their regular selling prices were available to us for scrutiny. In the case of conductors, however, we have to rely, by and large, on information furnished by consumers. However, we feel that a *prima facie* case exists for a careful scrutiny of the price policy pursued by the major units in the industry, and we propose undertaking, in due course, a separate inquiry or series of investigations under Section 11(d) (i) of the Tariff Commission Act read in conjunction with Section 13.

16.1. Our Cost Accounts Officers examined the costs of production of bare copper and aluminium conductors manufactured by the following units for the types specified against each :—

**Commission's estimates of the fair ex-works prices of indigenous electrolytic copper rods, bare copper conductors, A.C.S.R. and all-aluminium conductors, comparison with landed costs and c.i.f. prices of imported products and measure of protection required by the indigenous industry**

Name of the Company	Products costed	Period investi- gated
1. Indian Cable Co. Ltd., Tata- nagar (ICCO).	Hard drawn bare copper conductors—solid.  Hard drawn bare copper conductors—stranded.  Cadmium copper conductors.  Copper-weld wires—solid and stranded.  Aluminium conductors steel reinforced (A.C.S.R.).  All-aluminium conductors (A.A.C.).	April 1956 to March 1957.
2. National Insulated Cable Co. of India Ltd., Calcutta (NICCO).	Hard drawn bare copper conductors—solid.  Hard drawn bare copper conductors—stranded.  Aluminium conductors steel reinforced (A.C.S.R.).  All-aluminium conductors (A.A.C.)	April 1955 to March 1956.
3. Aluminium Industries Ltd., Kundara (ALIND).	Aluminium conductors steel-reinforced (A.C.S.R.).  All-aluminium conductors (A.A.C.).	April 1956 to March 1957.
4. Electrical Manufacturing Co. Ltd., Calcutta (E.M.C.).	Aluminium conductors steel reinforced (A.C.S.R.).  All-aluminium conductors (A.A.C.).	June 1955 to May 1956.

16.2. None of the units has made arrangements for recording cost data in sufficient detail for arriving at the actual costs of production of different types and sizes of conductors to be accurately determined. Consequently, our Cost Accounts Officers experienced considerable difficulties in working out the costs of production of conductors in the several units generally, and in particular in Indian Cable Co. Ltd., and National Insulated Cable Co. of India Ltd., both of which produce not only copper and aluminium conductors but also a variety of other products like insulated cables, winding wires and flexibles. Detailed reports of our Cost Accounts Officers are forwarded as confidential enclosures to this report. We recommend that all units engaged in the manufacture of conductors should take immediate steps to introduce a proper system of costing and report to the Commission before the end of June, 1958.



16.3. *Electrolytic copper rods or black copper rods (in coils).—*

16.3.1. Actual costs were worked out for Indian Cable Co. Ltd., (ICCO) which is the largest producer of electrolytic copper rods in the country. The period costed was April 1956 to March 1957. On the basis of actuals we have worked out estimates of future ex-works prices for the following sizes of rods:—

3/4" diameter,  
5/8" diameter,  
1/2" diameter,  
7/16" diameter,  
3/8" diameter,  
5/16" diameter, and  
1/4" diameter.

A statement showing our estimates of future ex-works prices together with the fair ex-works prices for the period investigated is given below:—

*Statement showing Commission's estimate of fair ex-works prices for Electrolytic Copper Rods*

								(Rs. per cwt.)
Specification	Net material cost	Conversion cost	Cost of production	Interest on working capital	Return on block capital	Estimated fair ex-works prices for the future	Actual fair ex-works prices (1956-57)	
3/4" Rod . .	174.24	3.74	177.98	3.25	0.99	182.22	248.18	
5/8" Rod . .	174.24	3.32	177.56	3.25	0.99	181.80	247.75	
1/2" Rod . .	174.24	2.85	177.09	3.24	0.99	181.32	247.27	
7/16" Rod . .	174.24	2.80	177.04	3.24	0.99	181.27	247.22	
3/8" Rod . .	174.24	2.70	176.94	3.24	0.99	181.17	247.13	
5/16" Rod . .	174.24	2.69	176.93	3.24	0.99	181.16	247.12	
1/4" Rod . .	174.24	3.43	177.67	3.25	0.99	181.91	247.86	

For the purpose of the above estimates we have adopted the price of electrolytic copper wire bars at Rs. 1.54 per lb. based on the London Metal Exchange quotations in May, 1957. Interest on working capital has been allowed at 5½ per cent. per annum on an amount equivalent to four months' cost of production. In addition, a return at 10 per cent. on the original value of the block has been provided.

16.3.2. We could not obtain c.i.f. prices of electrolytic copper rods as there had been no imports recently. However, at the public inquiry the representative of Kamani Brothers Private Ltd., Bombay, gave a c.i.f. quotation of Rs. 3,129 per ton for electrolytic copper rods of ½" diameter from U.K. The statement below gives the comparison of ex-works price of indigenous electrolytic copper rods of ½" diameter with the c.i.f. price and landed cost, ex-duty, of comparable imported rods from U. K.

	Rs.
(i) Fair ex-works price . . . . .	3,626.40
(ii) C.i.f. price . . . . .	3,129.00
(iii) Clearing charges at 1% on c.i.f. price . . . . .	31.29
(iv) Landed cost without duty . . . . .	3,160.29
(v) Difference between fair ex-works cost and landed cost without duty . . . . .	466.11
(vi) Difference as a percentage of c.i.f. price . . . . .	14.90

16.3.3. It would appear from the foregoing that a duty of about 15 per cent. *ad valorem* is required to place the indigenous product on par with the imported product. The existing rates of duty are higher, namely, 25 per cent. *ad valorem* (preferential) and 35 per cent. *ad valorem* (standard). We have considered the question whether the measure of protection at present enjoyed by the industry is excessive and should be reduced to the level indicated above but have come to the conclusion that it would not be advisable to do so. First the industry manufactures several sizes of rods and it would be neither fair nor proper to fix the quantum of protection on the basis of the imported price of one size of rods only. Secondly, in the absence of detailed cost data the calculations made by our Cost Accounts Officer are not likely to be free from imperfections. Lastly, Indian Cable Co. Ltd., cannot, because of its size, resources and the enormously wide range of its products, be deemed to represent the domestic industry. In the circumstances, we are of opinion that the present rate of preferential duty namely, 25 per cent. is not excessive. On the whole we consider that protection to the industry should not be withdrawn nor should the current rates of duty be reduced. We recommend, therefore, that protection to the electrolytic copper rods industry should be continued at the prevailing rates of duty for a further period of three years ending 31st December, 1960.

#### 16.4. Bare copper conductors:—

16.4.1. Actual costs were worked out (i) for the year April, 1956 to March, 1957 in the case of Indian Cable Co. Ltd. (ICCO) and (ii) for the year April, 1955 to March, 1956 in the case of National Insulated Cable Co. of India Ltd., (NICCO). On the basis of the actuals,

we have estimated the future ex-works prices for the following representative sizes of hard drawn bare copper conductors (solid and stranded):—

*Hard drawn solid bare copper conductors*

- (i) 4 Swg or 0·232" diameter
- (ii) 6 Swg or 0·192" diameter
- (iii) 8 Swg or 0·160" diameter

*Hard drawn stranded bare copper conductors*

- (i) 7/·074"
- (ii) 19/·083"
- (iii) 37/·083"

A statement giving our estimates of future ex-works prices together with the fair ex-works prices for the period investigated is given below:—



## Statement showing Commission's estimate of further fair ex-works prices of hard drawn bare copper conductors

(In Rs. per cwt)

	1	2	3	4	5	6	7	8	9
		Net material cost	Fabricating cost	Cost of Reels & packing	Total works cost (2+3+4)	Interest on working capital	Return on block capital	Estimated fair ex-works prices (5+6+7)	Actual fair ex-works prices for the period investigated
<b>COPPER CONDUCTORS</b>									
<b>1. Hard drawn solid bare copper conductors:</b>									
(a) 4 Sug.									
ICCO.		177.53	4.23	2.16	183.92	3.36	3.35	190.63	257.35
NICCO.		182.68	7.60	1.37	191.65	3.50	2.42	197.57	257.21
(b) 6 Sug.									
ICCO.		177.42	4.73	2.16	184.31	3.37	3.35	191.03	257.73
NICCO.		182.68	8.85	1.37	192.90	3.51	2.42	198.83	258.43
(c) 8 Sug.									
ICCO.		177.42	5.48	2.16	185.06	3.38	3.35	191.79	258.47
NICCO.		182.68	3.05	1.37	187.10	3.43	2.42	192.95	252.74
<b>2. Hard-drawn Stranded Bare Copper Conductors:</b>									
(a) 7/.074"									
ICCO.		178.31	13.71	3.56	195.58	3.56	6.10	205.24	271.90
NICCO.		182.68	8.69	2.57	193.94	3.55	5.66	203.15	262.60
(b) 19/.083"									
ICCO.		178.31	13.05	5.72	197.08	3.58	6.10	206.76	273.48
NICCO.		182.68	9.86	2.57	195.11	3.57	5.66	204.34	263.74
(c) 37/.083"									
ICCO.		178.31	12.02	5.72	196.05	3.56	6.10	205.71	272.44
NICCO.		182.68	10.31	2.57	195.56	3.57	5.66	204.79	264.17

16.4.2. It will be seen from the above statement that the cost of raw materials alone accounts for nearly 90 per cent. of the cost of production. As in the case of electrolytic copper rods, we have adopted the price of electrolytic copper wire bars at Rs. 1·54 per lb. based on the London Metal Exchange quotations for May, 1957. The higher cost of raw materials in respect of NICCO is due to the higher cost of conversion of electrolytic wire bars into rods (which is done at ICCO's works at Jamshedpur) and also transport charges of rods from Jamshedpur to Calcutta. The periods costed are also different for the two units. It might be able to effect some saving in charges of conversion after its rod mill has commenced regular production. But as the extent of such saving could not be accurately estimated, we have not taken that factor into account for the purpose of our present calculations. We have allowed interest on working capital at 5½ per cent. per annum on an amount equivalent to four months' cost of production and return at 10 per cent. on the original value of the block allocated to the manufacture of bare copper conductors by our Cost Accounts Officers after discussions with the representatives of the companies. In the absence of an independent technical assessment of the plant and machinery required for the manufacture of bare copper conductors, it is not possible to measure the margin of error in the above estimates of block.

16.4.3. We were not able to obtain actual c.i.f. prices and landed costs of items selected for costing as they had not been imported recently. We, therefore, obtained quotations through the High Commission of India in the United Kingdom who, however, warned us that as the quotations had been furnished by U. K. suppliers with the knowledge that they were intended for the specific purpose of assessing the quantum of protection required by the Indian industry in this inquiry they would not truly represent the prices at which supplies might be available from U. K. However, the quotations furnished by the High Commission were discussed at the public inquiry and the manufacturers did not raise any objection on the ground that they were unduly low. We are, therefore, adopting those prices as a basis for comparison of fair ex-works prices with landed costs ex-duty of similar imported products. A statement showing this comparison is given below:—

Statement showing the comparison between estimated fair ex-works prices of bare copper conductors with the landed costs ex-duty of similar imported conductors

(Prices per ton)													
Name of product	Size	Name of producer	Origin of import	C.I.F. price	Customs duty		Clearing charges	Landed cost	Landed cost excluding duty	Estimated future fair ex-works prices	Difference between estimated future ex-works prices & landed costs ex-duty		
					%	Amount					Rs.	Rs.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	
1. Solid Bare Copper Conductors.	4 Swg. or 0.232" dia.	ICCO	U.K.	3719.83	35	1301.94	37.20	5058.97	3757.03	3812.60	55.57	1.49	
		NICCO	"	"	"	"	"	"	"	3951.40	194.37	5.23	
	6 Swg. or 0.192" dia.	ICCO	"	3696.50	"	1293.78	36.97	5027.25	3733.47	3820.60	87.13	2.36	
		NICCO	"	"	"	"	"	"	"	3976.60	243.13	6.58	
	8 Swg. or 0.160" dia.	ICCO	"	3683.17	"	1289.11	36.83	5009.11	3720.00	3835.80	115.80	3.14	
2. Stranded Bare Copper Conductors.		NICCO	"	"	"	"	"	"	"	3859.00	139.00	3.77	
	7/1.074"	ICCO	"	4004.83	"	1401.69	40.05	5446.57	4044.88	4104.80	59.92	1.50	
		NICCO	"	"	"	"	"	"	"	4063.00	18.12	0.45	
	19/1.083"	ICCO	"	4001.50	"	1400.53	40.02	5442.05	4041.52	4135.20	93.68	2.34	
		NICCO	"	"	"	"	"	"	"	4086.80	45.28	1.13	
	37/1.083"	ICCO	"	4034.83	"	1412.19	40.35	5487.37	4075.18	4114.20	39.02	0.97	
		NICCO	"	"	"	"	"	"	"	4095.80	20.62	0.51	

16.4.4. It will be seen from the statement that the maximum duty indicated to equate domestic fair ex-works prices with landed costs ex-duty of similar imported products is 6.58 per cent. only. The current rate of duty on these conductors is 35 per cent. *ad valorem*. In deciding whether the industry needs continuance of protection or not, we should take into account several factors. First, as stated in paragraph 16.2 the data available were not adequate to determine accurately the fair ex-works price. Secondly, for an article like bare copper conductors whose raw material is subject to violent fluctuations in prices, it would not be proper to determine the quantum of protection by comparing the future fair ex-works price of the indigenous product calculated on the basis of lower raw material prices with current quotations from U. K. which might be based on higher prices of raw material. Thirdly, we should not disregard the warning of the Indian High Commission, London that U. K. quotations may not be realistic. Nor should we overlook the fact that if imports were freely allowed, cheaper supplies might have been available from sources other than U.K. In the circumstances, we are of the view that it would be undesirable to withdraw protection from the industry at this stage on the basis of the data at present available. As regards the quantum of protection, that is, whether the rate of duty should be maintained at the existing rate of 35 per cent. *ad valorem* or reduced to a lower level, the question is, to our mind, largely academic since import has been banned. Nevertheless we should bear in mind that as the domestic industry is unable to obtain electrolytic copper wire bars indigenously, it is, to that extent, subject to a special handicap as compared with the industry in foreign countries. This position is likely to continue for some years until an electrolytic copper industry is established in the country. Further, as a result of restriction on imports due to the present foreign exchange crisis, the cost of copper wire bars to the Indian industry is bound to be higher in the future. So long as the domestic industry continues to suffer from such disadvantages, the imported product will enjoy a certain preference. Our comparison of the fair ex-works price and the landed cost takes no account of this factor. On the whole, therefore, we recommend that protection to the bare copper conductors industry should be continued at the existing rate of duty for a further period of three years ending 31st December, 1960. In making this recommendation we are not overlooking the fact that the cost of electrical conductors plays an important part in the fixation of tariffs for electric power and that in the interests of industrial development it is essential that prices of indigenous conductors should bear a fair relation to their cost of production. We also realise that the industry may develop a tendency to fix its selling prices in relation to the prices of imported products at the existing rates of duty. To ensure that such a tendency does not develop we propose, as stated in paragraph 15.2.5. to undertake investigation under section 11(d) (i) read with section 13 of the Tariff Commission Act, 1951.

#### 16.5. Aluminium Conductors (A. C. S. R. and A. A. C.).

16.5.1. The following statement gives the works costs of the common sizes of A. C. S. R. and all aluminium conductors produced by the four costed units during the periods investigated:

## Statement showing the actual works costs of indigenous aluminium conductors

I. A.C.S.R.

(Rs. per mile)

Description & Size of Product	Name of Producer	Net Material cost	Fabricating cost	Cost of reels & packing	Total works cost
1	2	3	4	5	6
1. 6/1/.059 Mole	ICCO .	204'34	19'38	11'66	235'38
	NICCO .	..	..	..	..
	ALIND .	245'11	31'64	16'88	293'63
	EMC .	..	..	..	..
2. 6/1/.083 Squirrel	ICCO .	..	..	..	..
	NICCO .	403'47	56'13	16'78	476'38
	ALIND .	481'35	33'25	16'61	531'21
	EMC .	..	..	..	..
3. 6/1/.093 Gopher	ICCO .	486'49	34'52	19'28	540'29
	NICCO .	..	..	..	..
	ALIND .	606'03	37'79	20'85	664'67
	EMC .	527'55	67'97	42'14	637'66
4. 6/1/.102 Weasel	ICCO .	547'08	38'32	27'66	613'06
	NICCO .	607'26	61'64	14'98	683'88
	ALIND .	726'62	42'02	25'12	793'76
	EMC .	635'66	68'37	25'38	729'41
5. 6/1/.110 Fox	ICCO .	..	..	..	..
	NICCO .	707'97	66'00	17'98	791'95
	ALIND .	839'46	43'56	29'59	912'61
	EMC .	742'61	70'75	29'51	842'87
6. 6/1/.118 Ferret	ICCO .	785'26	45'13	34'16	864'55
	NICCO .	816'04	69'57	20'43	906'04
	ALIND .	964'48	44'84	33'88	1043'20
	EMC .	852'07	74'52	33'93	960'52
7. 6/1/.132 Rabbit	ICCO .	984'87	54'88	37'16	1076'91
	NICCO .	1016'03	76'26	25'69	1117'98
	ALIND .	1219'70	55'83	42'20	1317'73
	EMC .	1069'48	82'16	42'48	1194'12
8. 6/1/.144 Mink	ICCO .	1170'94	62'84	45'28	1279'06
	NICCO .	1209'61	84'18	29'97	1323'76
	ALIND .	1447'78	55'55	45'07	1548'40
	EMC .	1252'73	88'20	52'27	1393'20
9. 6/1/.161 Raccoon	ICCO .	1469'63	80'51	57'27	1607'41
	NICCO .	1527'16	103'24	37'46	1667'86
	ALIND .	1808'82	68'42	112'96	1990'20
	EMC .	..	..	..	..
10. 6/.186/7/.062 Dog	ICCO .	1904'38	116'53	79'56	2100'47
	NICCO .	..	..	..	..
	ALIND .	2384'21	112'97	129'34	2626'52
	EMC .	2058'59	172'16	117'18	2347'93
11. 12/7/.110 Sp. Conductor	ICCO .	1943'56	105'16	94'00	2142'72
	NICCO .	..	..	..	..
	ALIND .	..	..	..	..
	EMC .	2029'99	181'46	71'39	2282'84



per mile)					
1	2	3	4	5	6
12. 30/7/.102 Wolf	ICCO .	2865.53	262.36	172.59	3300.48
	NICCO	..	..	..	..
	ALIND	3864.97	217.66	101.62	4184.25
	EMC	3397.22	307.87	96.28	3801.37
13. 30/7/.110 Lynx	ICCO .	3685.20	290.80	178.47	4154.47
	NICCO	..	..	..	..
	ALIND	..	..	..	..
	EMC	3965.61	320.98	111.95	4398.54
14. 30/7/.118 Panther	ICCO .	4220.61	338.74	218.59	4777.94
	NICCO	..	..	..	..
	ALIND	5115.78	261.54	151.25	5528.57
	EMC	..	..	..	..

(Rs. per mile)				
II—A. A. C.				
	Net ma- terial cost	Fabricat- ing cost	Cost of reels & packing	Total works cost
1. Equivalent or nearest equivalent to 4 SWG. Copper Conductors:				
ICCO (7/.110)	628.06	85.67	24.13	737.86
NICCO (7/.110)	774.12	69.26	32.17	875.55
ALIND (7/.1093)	780.38	39.81	29.10	849.29
EMC (7/.1093)	801.78	70.41	21.80	893.99
2. Equivalent or nearest equivalent to 6 SWG Copper Conductors:				
ICCO (3/.144)	462.18	62.78	19.68	544.64
NICCO	..	..	..	..
ALIND (7/.0975)	619.00	41.77	23.09	683.86
EMC (7/.0975)	635.97	71.61	17.29	724.87
3. Equivalent or nearest equivalent to 8 SWG Copper Conductors:				
ICCO (3/.118)	310.34	54.58	19.00	383.92
NICCO (3/.118)	382.51	37.59	19.30	439.40
ALIND (7/.0772)	389.25	31.41	14.50	435.16
EMC (7/.081)	436.98	67.16	11.88	516.02

16.5.2. It will be seen from the above statement that the raw material cost of ICCO was the lowest. The costs of the other three units were higher but the margin of difference *inter se* was not very wide. As regards fabricating cost, NICCO's figure was very high and

the explanation was that it was drawing aluminium wires on the machines which were specially designed for copper wires. This had the effect of reducing substantially the rate of production of aluminium wires per shift. We are informed that the company is making arrangements to instal separate wire drawing machines for aluminium wires. As regards EMC, the higher fabricating cost is attributed to the comparative low speed of its stranding machine. The company, it appears, has applied for licences to import high speed machines.

16.5.3. As ICCO and NICCO are manufacturing a large number of items other than aluminium conductors, we do not think that it would be proper to take their cost as representative for purposes of comparison with c.i.f. price of similar imported products. The other two units are engaged almost exclusively on the production of aluminium conductors and one of them uses ingots and imported rods for the manufacture of conductors in the ratio of 50:50 while the other produces conductors mostly from imported rods. We have therefore adopted their costs for the various purposes dealt with in succeeding paragraphs.

16.5.4. Before we make any estimate of future costs we have to settle two issues on which Government have made special references to us. The first relates to the concessional rates of duty on electrolytic aluminium ingots/bars and rods enjoyed by manufacturers of A.C.S.R. and the second the tariff anomaly in the case of all aluminium conductors. The A.C.S.R. industry was enjoying the concession of duty-free import of aluminium rods till 14th July, 1954. Thereafter Government decided to levy a duty of 15 per cent. *ad valorem* on electrolytic ingots/bars and 17½ per cent. *ad valorem* on rods used in the manufacture of A.C.S.R. pending a detailed investigation by the Tariff Commission. Even these rates are a concession to the industry as the statutory rate of duty applicable to aluminium ingots/bars and rods was 31½ per cent. *ad valorem*, previously and is now 35 per cent. *ad valorem*. There are two issues involved in this. First, whether there should be any difference between the concessional rate of duty applicable to ingots/bars and that leviable on rods, and secondly, what should be the concessional rate or rates of duty on these raw materials for the aluminium conductors industry. We have examined both these issues carefully. If both ingots and rods were allowed to be imported *free of duty* the fair ex-works prices of conductors would have been as indicated in Statements I and II below:—

#### STATEMENT—I

*Statement showing the fair ex-works prices of aluminium conductors based on duty-free import of electrolytic aluminium ingots*

(Price in Rs. per mile)

Name of product	Description of product	Fair ex-works price	
		ALIND	EMC
1	2	3	4
<b>I. A.C.S.R.</b>			
1. Squirrel	6/1/.083"	442.19	..
2. Gopher	6/1/.093"	554.51	..
3. Weasel	6/1/.102"	666.47	..

(Price in Rs. per mile)			
1	2	3	4
4. Ferret . . . . .	6/1/.118"	896.38	..
5. Mink . . . . .	6/1/.144"	1294.15	..
6. Raccoon . . . . .	6/1/.161"	1676.61	..
7. Tiger . . . . .	30/7/.093"	2990.65	..
8. Wolf . . . . .	30/7/.102"	3568.12	..
9. Panther . . . . .	30/7/.118"	4851.04	..
II. A.A.C.			
1. Panga . . . . .	7/.1093"	731.02	..
2. Iris . . . . .	7/.0975"	591.55	..
3. Rose . . . . .	7/.0772"	374.06	..

## STATEMENT II

*Statement showing the fair ex-works prices of aluminium conductors based on duty-free import of electrolytic aluminium rods*

(Price in Rs. per mile)

Name of product	Description of product	Fair ex-works price	
		ALIND	EMC
I. A.C.S.R.			
1. Squirrel	6/1/.083"	462.94	..
2. Gopher	6/1/.093"	580.58	629.88
3. Weasel	6/1/.102"	697.86	690.42
4. Ferret	6/1/.118"	938.42	912.87
5. Mink	6/1/.144"	1356.84	1348.91
6. Raccoon	6/1/.161"	1754.93	1679.68
7. Tiger	30/7/.093"	3120.19	..
8. Wolf	30/7/.102"	3724.04	3672.20
9. Lynx	30/7/.110"	..	4239.71
10. Panther	30/7/.118"	5059.59	..
II. A.A.C.			
1. Pansy	7/.1093"	775.12	761.85
2. Iris	7/.0975"	626.54	618.54
3. Rose	7/.0772"	396.07	..
4. Midge	7/.081"	..	445.24

16.5.5. The above statements indicate that it is cheaper to produce aluminium conductors from ingots/bars than from rods and that the margin in favour of production from ingots/bars is about 5 per cent. The existing differential rates of duty between rods and ingots/bars appear to have been fixed on the assumption that it would be more advantageous to manufacture A. C. S. R. from rods than to manufacture it from ingots/bars. Our examination has, however, led to a contrary conclusion, namely, that it is more economical to produce A. C. S. R. from electrolytic aluminium ingots and bars and that a further incentive to encourage such production by imposing a slightly higher duty on electrolytic aluminium rods is not necessary. Apart from this, we should not overlook the difficulties of establishing new rod mills in the country at present. After taking into account all relevant factors we have come to the conclusion that it is not necessary to maintain a margin between the concessional rates of duty leviable on electrolytic aluminium ingots/bars and rods used in the manufacture of aluminium conductors and that all these materials should be assessed to duty at a uniform rate.

16.5.6. The next question to be considered is what should be the concessional rate of duty on aluminium ingots/bars and rods. *Prima facie*, this should depend on the rate of duty which the finished product can bear. The present rate of duty on A. C. S. R. is 35 per cent. *ad valorem* and we have examined the rate of duty which the A. C. S. R. industry can pay for its principal raw material if it continues to be protected by the existing rate of duty. As a result of this examination we have found that the industry can bear a duty of 25 per cent. *ad valorem* on aluminium ingots/bars and rods. We should, therefore, consider whether it is possible, without detriment to the industry and to our economy generally, to raise the duty to 25 per cent. *ad valorem*. In this connection it may be mentioned that practically the entire production of A. C. S. R. and all aluminium conductors is taken up by the Union and State Governments, Power Projects, etc. and that contracts for supplies include an escalator clause which provides that any variation in metal prices subsequent to the signing of the contract would be borne by the buyer. Accordingly an enhancement of duty on the raw material will be recoverable from Governments and other customers. This might have the effect of upsetting the estimates of many power projects and electricity supply undertakings and might also lead to an enhancement of rates for electricity. Such a development will not be in the interests of the country as one of the handicaps of our industrial development is the high cost of power. We do not, therefore, recommend that the duty on electrolytic aluminium ingots, bars and rods used in the manufacture of A. C. S. R. should be raised to 25 per cent. *ad valorem*. As regards the rate of duty which should be fixed for these raw materials in future, the consensus of views expressed at the public inquiry and in written memoranda favoured the maintenance of *status quo*. The rate of duty that should be fixed must serve the dual purpose of (a) keeping the cost of production of aluminium conductors at a fairly low level and (b) encouraging domestic production of electrolytic aluminium. The current concessional rate of 15 per cent. *ad valorem* on ingots/bars and rods which is 3/7th of the statutory rate, fulfils, in our opinion, the above objectives. Further, as it is established from our cost examination that

there is no case for the levy of a higher duty on electrolytic aluminium rods we recommend that both electrolytic aluminium ingots/bars and rods used in the manufacture of A. C. S. R. should be subject to a uniform concessional duty of 15 per cent. *ad valorem*. The sacrifice of revenue involved in the case of aluminium rods is likely to be compensated by the increased revenue from import of all aluminium conductors if our recommendation in paragraph 16.5.10 for a higher duty on these conductors is accepted.

16.5.7. Our estimates of future ex-works prices of A. C. S. R. and A. A. C. on the basis of a duty of 15 per cent. *ad valorem* on ingots, bars and rods are given in the following statement. In constructing these estimates we have allowed, as in the case of bare copper conductors, (i) a return of 10 per cent. on the original value of block and (ii) interest on working capital at  $5\frac{1}{2}$  per cent. per annum on an amount equivalent to 4 months' cost of production.



Statement showing estimated fair ex-works prices of aluminium conductors on the basis of a duty of 15 per cent ad valorem on electrolytic aluminium ingots/bars/rods.

(Rs. per mile)									
Size	Name of manufacturer	Net material cost	Fabricating cost	Cost of reels and packing	Total works cost	Interest on working capital	Return block capital	Fair ex-works prices	
1	2	3	4	5	6	7	8	9	
<b>I. A.C.S.R.</b>									
1. 6/1/1.083" Squirrel	ALIND E.M.C.	437.77	28.09	16.45	482.31	8.75	12.05	503.11	
2. 6/1/1.093" Gopher	ALIND E.M.C.	551.23	33.08	20.53	604.84	10.97	15.14	631.05	
3. 6/1/1.102" Weasel	ALIND E.M.C.	557.41	45.84	44.42	647.67	11.74	5.55	664.96	
4. 6/1/1.118" Ferret	ALIND E.M.C.	663.74	38.59	24.86	727.19	13.19	18.24	758.62	
5. 5/1/1.132" Rabbit	ALIND E.M.C.	670.43	47.48	26.75	744.66	13.51	6.69	764.86	
6. 6/1/1.144" Mink	ALIND E.M.C.	900.13	43.91	33.54	977.58	17.79	24.38	1019.75	
7. 6/1/1.161" Raccoon	ALIND E.M.C.	896.78	53.11	35.76	985.65	17.92	8.94	1012.51	
8. 30/7/1.093" Tiger	ALIND E.M.C.	1109.87	55.40	41.78	1207.05	21.90	30.53	1259.48	
9. 30/7/1.102" Wolf	ALIND E.M.C.	1119.48	62.30	44.77	1226.55	22.31	11.18	1260.04	
		1315.32	55.05	45.64	1416.01	25.77	36.35	1478.13	
		1333.70	68.68	55.09	1457.47	26.53	13.30	1497.30	
		1643.69	69.71	114.39	1827.79	33.29	45.43	1906.51	
		1667.47	70.09	68.85	1815.41	33.07	16.66	1865.14	
		2930.32	196.44	86.74	3233.50	58.51	86.41	3378.42	
		3350.32	207.67	102.90	3860.89	69.97	103.96	4034.82	
		3601.16	235.59	103.18	3939.93	71.37	37.92	4049.22	

	1	2	3	4	5	6	7	8	9
10. 30/7/110"	.	.	.	.	.	.	.	.	.
Lyvx	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
11. 30/7/183"	.	.	.	.	.	.	.	.	.
Panther	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
II. A.A.C.									
1. 7/11093"	.	.	.	.	.	.	.	.	.
7/11093"	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
2. 7/10975"	.	.	.	.	.	.	.	.	.
7/10975"	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.
3. 7/10772"	.	.	.	.	.	.	.	.	.
7/1081"	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.

16.5.8. Information on c.i.f. prices and landed costs of imported aluminium conductors of sizes for which estimates of fair ex-works prices have been determined by us is given in Appendix V. The following statement gives a comparison of fair ex-works prices of indigenous A. C. S. R. and all aluminium conductors worked out on the basis of a duty of 15 per cent. *ad valorem* on electrolytic aluminium ingots/bars and rods with the landed costs ex-duty of similar imported products in the recent past.





*Statement showing the Comparison of estimated fair ex-works prices of aluminium conductors (on the basis of a duty of 15 per cent. ad valorem on electrolytic aluminium ingots/bars/rods) and the ex-duty landed costs of similar imported products*

Size	Name of the producer	Origin of import	C.I.F. Price	Customs duty % amount	Clearing charges	Landed cost (4+6+7)	Landed cost ex-duty (4+7)	Fair ex-works price	Difference between fair ex-works price and landed cost ex-duty	10	11	12
<b>I. A.C.S.R.</b>												
1. 6/1/.083" Squirrel.	ALIND	Austria	471.43	35%	165.00	4.71	641.14	476.14	503.11	26.97	5.72	
2. 6/1/.093" Gopher	ALIND EMC	Hungary "	519.00 519.00	35% 35%	181.65 181.65	5.19 5.19	705.84 705.84	524.19 524.19	631.05 664.96	106.86 140.77	20.59 27.12	
3. 6/1/.102" Weasel	ALIND EMC	Hungary "	609.00 609.00	35% 35%	213.15 213.15	6.09 6.09	828.24 828.24	615.09 615.09	758.62 764.86	143.53 149.77	23.57 24.59	
4. 6/1/.118" Ferret	ALIND EMC	Hungary "	851.00 851.00	35% 35%	297.85 297.85	8.51 8.51	1157.36 1157.36	859.51 859.51	1019.75 1012.51	160.24 153.00	18.83 17.98	
5. 6/1/.144" Mink	ALIND EMC	Spain "	1346.43 1346.43	35% 35%	471.25 471.25	13.46 13.46	1831.14 1831.14	1359.89 1359.89	1478.13 1497.30	118.24 137.41	8.78 10.21	
6. 6/1/.161" Raccoon	ALIND EMC	Spain "	1654.76 1654.76	35% 35%	579.17 579.17	16.55 16.55	2250.48 2250.48	1671.31 1671.31	1906.51 1865.14	235.20 193.83	14.21 11.71	
7. 30/7/.093" Tiger.	ALIND	Spain	3140.47	35%	1099.16	31.40	4271.03	3171.87	3378.42	206.55	6.58	
8. 30/7/.102" Wolf	ALIND EMC	Spain "	3778.57 3778.57	35% 35%	1322.50 1322.50	37.79 37.79	5138.86 5138.86	3816.36 3816.36	4034.82 4049.22	218.46 232.86	5.78 6.16	

I	2	3	4	5	6	7	8	9	10	11	12
9- 30/7/.110 <sup>r</sup> Inx.	EMC	Spain	4320.23	35%	1512.08	43.20	5875.51	4363.43	4678.07	314.64	7.28
10. 30/7/.118 <sup>r</sup> Panther.	ALIND	Spain	4971.42	35%	1740.00	49.71	6761.13	5021.13	5475.32	454.19	9.14
II. A.A.C.											
1. 7/.1093 <sup>r</sup> Pancy	ALIND	Austria	723.00	10%	72.30	7.23	802.53	730.23	854.38	124.15	17.17
	EMC	"	723.00	10%	72.30	7.23	802.53	730.23	861.49	131.26	18.15
2. 7/.0975 <sup>r</sup> Iris	ALIND	Spain	583.33	10%	58.30	5.83	647.13	588.83	680.40	100.57	17.24
	EMC	"	583.33	10%	58.30	5.83	647.13	588.83	697.59	108.76	18.64
3- 7/.0772 <sup>r</sup> Rose	ALIND	Austria	363.63	10%	36.36	3.64	403.63	367.27	435.59	68.32	18.79
4- 7/.081 <sup>r</sup> Midge.	EMC	Spain	415.48	10%	41.55	4.15	461.18	419.63	499.55	79.92	19.24

16.5.9. It will be seen from the above statement that the maximum duty indicated is 28 per cent. *ad valorem* in the case of A. C. S. R. and 20 per cent. *ad valorem* in the case of all aluminium conductors. The current rate of duty on A. C. S. R. is 35 per cent. *ad valorem*. This industry is at present unable to obtain high tensile steel wires and electrolytic aluminium ingots and rods of the requisite quality and is, to that extent, subject to a special handicap as compared with the industry in foreign countries. This position is also likely to continue until the projected expansion of the steel and aluminium industries is completed. Our estimates of future ex-works prices were based on data which were not entirely free from inaccuracies, and further, some cushion will also be needed as provision for possible increases in the future prices of raw materials. In consideration of these factors we do not think it advisable to reduce the duty from the present rate of 35 per cent. to 28 per cent. as indicated in the statement above. We recommend, therefore, that protection to the A. C. S. R. (Aluminium Conductor Steel Reinforced) industry should be continued for a further period of three years ending 31st December, 1960 at the existing rate of duty.

16.5.10. The next issue relates to the tariff anomaly in the case of all aluminium conductors. All aluminium conductors (A. A. C.), in respect of which the sectional area of copper wires of equivalent conductivity is 1/80th of a square inch and over, are at present assessed to a duty of 10 per cent. *ad valorem* under tariff item No. 72(e), whereas aluminium ingots/bars and rods used in their manufacture are assessed to a duty of 35 per cent. *ad valorem* under tariff item Nos. 66(1) and 60(b) respectively. Since A.A.C. and A. C. S. R. are used for overhead transmission and distribution of electricity and are manufactured in the same premises by the same concerns there is no reason why A. C. S. R. should remain on the protected list and A. A. C. should be outside that list particularly as our cost examination indicates that it needs tariff protection at 20 per cent. *ad valorem* if its raw materials are allowed to be imported at the concessional rate of duty of 15 per cent. *ad valorem*. We recommend, therefore, that all aluminium conductors, irrespective of its conductivity in terms of copper wires, should be protected and brought under I. C. T. No. 72(12) and assessed to the same rate of protective duty i.e., 35 per cent. *ad valorem*, as A. C. S. R. Since import of all aluminium conductors constitutes a small proportion of indigenous production, the enhanced duty is unlikely to cause any upsets in the estimates of Power Projects, etc. Further, as all aluminium conductors are produced by the manufacturers of A. C. S. R., a higher duty on raw materials appears to us inadvisable. Discriminatory tariff treatment of the same raw material intended for slightly different uses in the same industry involves administrative difficulties inasmuch as it is not often possible to separate aluminium ingots, bars and rods meant for use in the manufacture of A. C. S. R. from those to be used in the production of A. A. C. (all aluminium conductors). We therefore recommend that manufacturers of all aluminium conductors should be allowed to import electrolytic aluminium ingots/bars and rods at the concessional rate of duty recommended for A. C. S. R. We also urge that manufacturers of A. A. C. should pass on to the consumers the benefit of the concessional rate of duty on the raw materials.

17.1. As stated earlier, copper-weld wires are manufactured only by Indian Cable Co. Ltd., from imported copper weld rods which are produced in U.S.A. by a patented process. Our Cost Accounts Officer examined the costs of production of copper-weld wires produced by the company. We could not obtain reliable c.i.f. quotations for similar imported articles to measure the disadvantages of Indian Cable Co. Ltd. under the existing duty on copper-weld rods.

17.2. Copper-weld wires are used by the Posts and Telegraphs Department for long span telegraph transmission, especially in areas where thefts of copper wires take place. We understand that in other countries, notably in U. S. A., A. C. S. R. is being increasingly used in place of copper-weld wires in long span telegraph and telephone lines and all aluminium conductors and cadmium copper conductors in short span lines. We are, however, informed that the Indian Posts and Telegraphs Authorities did not find A. C. S. R. suitable for long span telegraph lines. Nevertheless, it should be borne in mind that the continued use of copper-weld wires in the country serve to perpetuate indefinitely our dependence on a single source of supply for the raw material (copper-weld rod) which is not desirable. We recommend, therefore, that the Indian Posts and Telegraphs Department should examine further the possibility of using A. C. S. R., all aluminium conductors (A.A.C.) and cadmium copper conductors which are locally available, in the place of copper-weld wires. We, however, do not wish that the present tariff anomaly referred to in paragraphs 14.1 and 14.2 should continue. The best way to remove it is to apply to copper-weld wires the same duty as is applicable to copper-weld rods. For this purpose a separate item should be inserted in the First Schedule to the Indian Tariff Act, as follows:—

Item No.	Name of article	Nature of duty	Standard rate of duty
73(20)	Copper-weld wires	Revenue	50 per cent <i>ad valorem</i>

If a preferential rate of duty is also applicable to this item, it may be fixed in accordance with the provisions of the relevant Trade Agreement.

18. If our recommendations in the foregoing paragraphs are accepted, I. C. T. Nos. 64(4) and 72(12) will need a few amendments. A new tariff item will also have to be inserted to accommodate copper-weld wires. The amendments are indicated below:—

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The U.K.	A British Colony	Burma	
1	2	3	4	5	6	7	8
64(4)	Electrolytic copper rods or black copper rods (in coils).						
	(a) of British manufacture.	Protective	25 per cent <i>ad valorem</i>	..	..	Free	December 31st 1960.

1	2	3	4	5	6	7	8
	(b) not of British manufacture.	Protective	35 per cent <i>ad valorem</i>	..	..	..	December 31st, 1960
72(12)	Bare hard drawn or annealed electrolytic copper wires and cables of all sizes solid or stranded, A.C.S.R. (aluminium conductors steel reinforced) and all aluminium conductors.	Protective	35 per cent <i>ad valorem</i>	..	..	Free	December 31st, 1960
73(20)	Copper-weld wires	Revenue	50 per cent <i>ad valorem</i>	..	..	..	..

19.1. *Duty on high tensile galvanised steel wire.*—At the public inquiry it was pointed out that high tensile galvanised steel wire is a form of high carbon steel wire assessable under Item No. 63(32) of the Indian Customs Tariff. The import duties leviable are Rs. 50 per ton (preferential) and Rs. 85 per ton (standard). It was also represented that Indian Custom Houses had put a restricted interpretation on high carbon steel wire and assessed only steel wires with carbon content of 0.6 per cent. and above to the above rates of duty. Steel wires with slightly less carbon content, such as 0.5 per cent. or 0.55 per cent. of carbon, are not assessed as high carbon steel wire but are charged to higher rates of duty under I. C. T. Item No. 63(25) which are 25 per cent *ad valorem* (preferential) and 25 per cent. *ad valorem* plus Rs. 35 per ton (standard). It was urged that for the manufacture of A. C. S. R. steel wires having carbon content of 0.5 per cent and above could be used without any sacrifice of tensile strength or any other property and that such wires were used in other countries for the manufacture of A. C. S. R. The representatives of the Development Wing and the Central Water and Power Commission expressed the view that steel wires with carbon content of 0.5 per cent. above should be regarded as high carbon steel wires and assessed under Item No. 63(32). We have not been able to ascertain the grounds on which steel wires with carbon content between 0.5 per cent. and 0.6 per cent. have been excluded from the definition of high carbon steel wire for purposes of import duty. For the purpose of calculating the cost of production of indigenous A. C. S. R. we have taken into account the duty applicable under I. C. T. Item No. 63(32). In view of the expert opinion of the Development Wing and the Central Water and Power Commission, we see little justification for steel wires with carbon content between 0.5 per cent. and 0.6 per cent. to be classified as ordinary steel wire. Unless there are other special consideration in favour of the present definition, we recommend that steel wires with carbon content between 0.5 per cent. and 0.6 per cent. should be exempted from so much of duty as is in excess of what is payable under I.C.T. Item No. 63(32).

19.2. *Import licences for high tensile galvanised steel wires.*—In paragraph 10.7.5. we have referred to the representations of the manufacturers of A. C. S. R. regarding delay in the issue of licences for high tensile galvanised steel wire. It is essential that the production of A. C. S. R. should not suffer when the industry has large orders pending with it. We recommend, therefore, that the Iron and Steel Controller should make arrangements for speedy issue of import licences for steel wires required by the manufacturers of A. C. S. R.

20. Our conclusions and recommendations may be summarised as

**Summary of conclusions and recommendations** under:—

- (1) The Development Wing of the Ministry of Commerce and Industry should take steps to re-assess and accurately determine the capacity of individual units manufacturing bare copper and aluminium conductors in consultation with the Development Council for Heavy Electrical Industries.

[Paragraph 8.1]

- (2) All units producing bare copper and aluminium conductors should take immediate steps to obtain licences for I.S.I. Certification Marks and market their products under those marks.

[Paragraph 11.2]

- (3) The existing ban on exports of bare copper conductors and cadmium copper conductors should be lifted and the industry should endeavour to export these products to neighbouring countries.

[Paragraph 13.2]

- (4) All the units engaged in the manufacture of conductors should take immediate steps to introduce a proper system of costing and report to the Commission before the end of June, 1958.

[Paragraph 16.2]

- (5) Protection to the electrolytic copper rods industry should be continued at the prevailing rates of duty for a further period of three years ending 31st December, 1960.

[Paragraph 16.3.3]

- (6) Protection to the bare copper conductors industry should be continued at the existing rate of duty for a further period of three years ending 31st December, 1960.

[Paragraph 16.4.4]

- (7) Both electrolytic aluminium ingots/bars and rods used in the manufacture of A. C. S. R. should be subject to a uniform concessional duty of 15 per cent. *ad valorem*.

[Paragraph 16.5.6]

- (8) Protection to the A. C. S. R. (Aluminium Conductor Steel Reinforced) industry should be continued for a further period of three years ending 31st December, 1960 at the existing rate of duty.

[Paragraph 16.5.9]

- (9) All aluminium conductors, irrespective of its conductivity in terms of copper wires, should be protected and brought under I.C.T. No. 72(12) and assessed to the same rate of protective duty i.e., 35 per cent. *ad valorem*, as A. C. S. R.

[Paragraph 16.5.10]

- (10) Manufacturers of all aluminium conductors should be allowed to import electrolytic aluminium ingots/bars and rods at the concessional rate of duty recommended for A. C. S. R.

[Paragraph 16.5.10]

- (11) The Indian Posts and Telegraphs Department should examine further the possibility of using A. C. S. R., all aluminium conductors (A.A.C.) and cadmium copper conductors, which are locally available, in the place of copper-weld wires.

[Paragraph 17.2]

- (12) The best way to remove the tariff anomaly in respect of copper-weld wires is to apply to them the same rate of duty as is applicable to copper-weld rods.

[Paragraph 17.2]

- (13) Item Nos. 64(4) and 72(12) of the Indian Customs Tariff should be amended and a new tariff item 73(20) inserted as indicated in paragraph 18.

[Paragraph 18]

- (14) Unless there are special considerations in favour of the present definition, steel wires with carbon content between 0.5 per cent. and 0.6 per cent. should be exempted from so much of the duty as is in excess of what is payable under I. C. T. No. 63(32).

[Paragraph 19.1]

- (15) The Iron and Steel Controller should make arrangements for speedy issue of import licences for steel wires required by the manufacturers of A. C. S. R.

[Paragraph 19.2]

21. We wish to express our thanks to the producers, importers and consumers who furnished us with valuable information in connection with this inquiry and whose representatives gave evidence before us.

**Acknowledgements**

C. RAMASUBBAN,  
Member.

S. K. MURANJAN,  
Member.

J. N. DUTTA,  
Member.

R. S. BHATT,  
Member.

S. A. PALEKAR,  
for Secretary  
BOMBAY;

Dated the 17th October, 1957.

## APPENDIX I

(Vide paragraph 4.1)

*List of firms/bodies to whom questionnaires/letters were sent and those from whom replies or memoranda were received*

\*Indicates those who replied or sent memoranda.

†Indicates those who replied that they were not interested.

### I. PRODUCERS:

- \*1. The Indian Cable Co. Ltd., 9, Hare Street, Calcutta-1.
- \*2. The National Insulated Cable Co. of India Ltd., "Stephen House" 4, Dalhousie Square East, Calcutta.
- \*3. The Aluminium Industries Ltd., Kundara (Kerala State).
- \*4. Electrical Manufacturing Co. Ltd., EMC Gardens, 136, Jessore Road, Calcutta-28
- \*5. Jaipur Metals & Electricals Ltd., Jaipur (Rajasthan).
- \*6. Jayant Metal Manufacturing Co., 924-A, Sayani Road, Bombay-28.
- \*7. National Screw and Wire Products Ltd., 51, Stephen House, 4, Dalhousie Square East, Calcutta-1.
- \*8. The Hindustan Electric Co. Ltd., Thackersey House (3rd Floor), Graham Road, Ballard Estate, Bombay-1.
- \*9. Devidayal Cable Industries (Private) Ltd., Gupta Mills Estate, Darukhana, Reay Road, Bombay-10.
- \*10. The Aluminium Corporation of India Ltd., 7, Council House Street, Calcutta.
11. National Wire & Metal Industries, 120, Kika Street, Bombay-4.
- \*12. Anam Electrical Manufacturing Co., Kadium, East Godawari District.
13. Jariwala Ishverlal Jekisandas & Co., 174, Kika Street, (Gulabwadi), Bombay-4.
14. Patel Metal Works, Sunder Bhuvan, Bhuleswar, Fulgali, Bombay-2.
15. Jyoti Wire Industries, 164, Kika Street, Bombay-4.
16. Laxmi Cables (India), Railway Road, Bhandup, Bombay-40.
17. Ram Kishan Metal Works (Bombay), Ram Kishan Wadi, Railway Road, Bhandup, Bombay-40.
18. Vidyut Copper Conductors Limited, Soni Falia, Vagheshwari Mata's Pole, Surat.

### II. IMPORTERS:

1. Dodsai Limited, 31, Murzban Road, Fort, Bombay-1.
2. Francis Klein & Co. (Bombay) Limited, Bank Street, Bombay-1.
3. Devidayal (Sales) Limited, 45, 2nd Bhoiwada, Bombay-2.
- \*4. Aluminium Union Limited, Post Box No. 700, Calcutta.
5. Eastern Electric & Engineering Company, 127, Mahatma Gandhi Road, Bombay-1.
- \*6. Hindustan Electric Company Limited, Faridabad.
- †7. South India Corporation (Madras) Limited, Post Box No. 113, Madras-1.
- \*8. British Insulated Callenders' Cables Limited, 9, Hare Street, Calcutta-1.
- \*9. Associated Electrical Industries (India) Limited, 11-12, First Line Beach, Madras-1.
- \*10. Crompton Engineering Co. (Madras) Limited, Second Line Beach, Madras.
11. F. & C. Osler (India) Limited, C/o Richardson & Crudas Limited, First Line Beach, Madras-1.
- \*12. India Metal Agencies, 30, Manordas Street, Fort, Bombay-1.
13. Easun Engineering Company Limited, 5-7, Second Line Beach, Madras-1.



- \*14. Chari & Chari Limited, Medowell Building, Second Line Beach, Madras-1.
- 15. Escorts (Agents) Limited, 148, Mahatma Gandhi Road, Bombay.
- 16. The Industrial Gases Limited, 138, Canning Street, Calcutta.
- \*17. Prem Raj Ganpat Raj & Company, 419, B, Kalbadevi Road, Bombay.
- 18. R. S. Advani & Sons, Sambava Chambers, Sir P. M. Road, Bombay-1.
- 19. Indian Metal & Metallic Corporation, 49 B, Mint Street, Madras-3.
- \*20. Associated Electrical Industries (India) Limited, 6, Mission Row, Calcutta.
- \*21. Aluminium Hindustan Limited, 2, Jessore Road, Dum Dum, Calcutta-28.
- †22. The General Electric Co. of India Limited, Magnet House, Chittaranjan Avenue, Calcutta-13.
- \*23. Greaves Cotton & Crompton Parkinson Ltd., 1, Forbes Street, P. B. No. 91, Bombay.
- \*24. A. C. E. C. (India) Limited, Mubarak Manzil Street, Fort, Bombay.
- †25. The Trinity Electric Syndicate, Princess Street, Bombay-2.
- †26. Phillips Electric Co. (India) Limited, Phillips House, 7, Justice Chandra Madhab Road, Calcutta-20.
- 27. Eastern Equipment & Sales Limited, 1A, Vensittart Row, P. B. No. 401, Calcutta.
- \*28. International Sales Corporation Limited, 4, Mission Row, Calcutta.
- \*29. Associated Electrical Industries (India) Limited, Lady Hardinge Road, New Delhi-1.
- †30. Kamani Engineering Corporation Limited, Kamani Chambers, Nicol Road, Ballard Estate, Bombay-1.
- 31. Ericsson Telephone Sales Corporation, A. B. 5, Commassariat Road, Hastings, Calcutta.
- †32. Balmer Lawrie & Company Limited, 21, Netaji Subhas Road, Calcutta.
- 33. Sarup & Sons, 7A-6/W.E.A., Channa Market, Karol Bagh, Delhi.
- 34. East Asiatic Company (India) Limited, P. O. Box No. 639, Graham Road, Ballard Estate, Bombay-1.
- 35. Hindustan Electric Company, 28, Bara Khamba Road, Connaught Circus, New Delhi.
- \*36. International Imex (Agents) Limited, Post Box No. 605, New Delhi.
- \*37. B. Panna Lall Limited, Post Box No. 18, The Mall, Simla.
- †38. The United Industrial Corporation (Agencies) Ltd., 17, Saifabad, P. O. Box No. 14, Hyderabad, Dn.
- 39. Escorts (Agents) Limited, Pratap Building, Connaught Circus, New Delhi.
- 40. The Electrical Machines Corporation Limited, P-33, Ganesh Chandra Avenue, Calcutta-13.
- \*41. W. T. Henley's Tele. Works Co. Ltd., Henley House, Ballard Estate, P. O. Box No. 286, Bombay.
- 42. British Metal Corporation (India) Limited, United India Life Building, 22, Chittaranjan Avenue, Calcutta.
- 43. Hind Industrial & Mercantile Corporation Ltd., 27, New Queen's Road, Bombay-4.
- \*44. Kilburn & Company Limited, 4, Fairlie Place, Calcutta-1.
- †45. A. R. Palit & Company Limited, 76, Sundar Nagar, New Delhi.
- †46. Steel Brothers & Company Limited, Clive Buildings, Netaji Subhas Road, Calcutta.
- †47. Unique Electric Syndicate, 40, Ali Chambers, Medows Street, Fort, Bombay-1.
- †48. Unisals (India) Limited, 9, Munshi Lal Building, North Block, Connaught Circus, New Delhi.
- 49. Chimanlal Vadilal & Company, 80, Abdul Rehman Street, Bombay-3.
- 50. Aviquipe of India Limited, 22, Chittaranjan Avenue, Fifth Floor, Calcutta-13.
- †51. William Jacks & Company Limited, Hamilton House, Graham Road, Ballard Estate, Bombay-1.

52. Fomra Brothers, Fomra House, 392, Mint Road, Madras.
53. M. C. Mody & Brothers, 125A, Lohar Chawl, Bombay-2.
54. Continental Plant & Machinery Limited, 2, Justice Chandra Madhab Road, Calcutta.
- \*55. W. T. Henley's Telegraph Works Company Limited, Henley House, Old Court House Corner, Calcutta.
56. C. A. Sumair & Company, Nai Sarak, Delhi.
57. Hind Hardware Stores, Purbhay Building No. 1, Lohar Chawl, Bombay-2.
58. New India Electric Company, Behind Imperial Bank of India, Chandni Chowk, Delhi.
- \*59. Steam & Mining Equipment (India) Limited, 101, Park Street, Calcutta.
60. Electricals (India) Limited, 24-B, Hamam Street, Bombay-1.
61. International General Electric Co. of India, Thackersey House, Graham Road, Ballard Estate, Bombay-1.
- †62. Forbes Forbes Campbell & Company, Forbes Building, Home Street, Fort, Bombay.
63. Panna Lal Girdhar Lal, Sadar Bazar, Delhi.
- †64. A. T. Gooyee & Company, 68-F, Netaji Subhas Road, Calcutta.
- \*65. Blue-Star Engineering Company (Bombay), Private Ltd., Kasturi Buildings, Jamshedji Tata Road, Bombay-1.
66. Mody & Mody Company, 16, Hamam Street, Bombay-1.
- †67. Electric Power Devices Corporation, Currimjee Building, 111-A, Mahatma Gandhi Road, Bombay-1.
68. Metal Distributors (Private) Limited, 38, Strand Road, Calcutta.

### III. CONSUMERS:

#### (a) Government Consumers :

- \*1. The Chief Engineer for Electricity, Government of Andhra Pradesh, (Electricity Department), Kurnool.
2. The Superintending Engineer, Andhra Power System, Vijayawada.
- \*3. The Superintending Engineering, Rayalseema Power System, Anantpur.
- \*4. The Chief Electrical Engineer, Government of Assam, (Electricity Department), Shillong.
- \*5. The Chief Electrical Engineer, Government of Bihar, (Electricity Department), Patna.
- \*6. The Electrical Engineer to the Government of Bombay, P.W.D. Offices, Churchgate Street, Bombay-1.
- \*7. The Chief Engineer, Bombay State Electricity Board, Mercantile Bank Building (3rd Floor), Hornby Road, Fort, Bombay-1.
- \*8. The Chief Electrical Engineer, Saurashtra Electricity Board, Rajkot.
- \*9. The Electrical Engineer, Delhi State Electricity Board, Central Power House, Rajghat, New Delhi.
- \*10. The Executive Engineer, Hydro-Electric Division, Himachal Pradesh, P.W.D. Kannedy Cottage, Simla-4.
11. The Technical Director, Agartala Electric Supply, Government of Tripura, Agartala.
- \*12. The Chief Electrical Engineer, Government of Vindhya Pradesh, (Electrical and Mechanical Department), Rewa.
13. The Chief Engineer, Electrical & Mechanical Department, Kashmir State, Srinagar.
- \*14. The Chief Accounts Officer, Madhya Pradesh Electricity Board, Bhopal.
- \*15. The Chief Electrical Engineer, Government of Madhya Pradesh, (Electricity Department), Bhopal.

- \*16. The Chief Electrical Engineer, Government of Madras, (Electricity Department), Madras.
- \*17. The Superintending Engineer, Mettur Electricity System, Mettur Dam.
- \*18. The Superintending Engineer, Pykara Electricity System, Coimbatore.
- \*19. The Superintending Engineer, Madras Electricity System, 157, Mount Road, Madras.
- \*20. The Superintending Engineer, Papanasam Electricity System, P. O. Tallakulam, Mathurai.
- 21. The Chief Electrical Engineer, Government of Orissa, (Electricity Department), Cuttack.
- \*22. The Executive Engineer, Electrical & Mechanical, Kapurthala Division, Nabha.
- \*23. The Chief Engineer, Punjab P.W.D., Electricity Branch, Chandigarh.
- \*24. The Chief Engineer (Electricity), Government of Kerala, Trivandrum.
- 25. The Chief Engineer, Uttar Pradesh P.W.D., Electricity Branch, Lucknow.
- 26. Divisional Engineer (Commercial), West Bengal State Electricity Board, New Secretariat Buildings (7th floor), 1, Hastings Street, Calcutta-1.
- \*27. The Director General of Posts and Telegraphs, New Delhi.
- \*28. The Chief Controller of Telegraph Stores, Alipore, Calcutta.
- \*29. The Director General of Ordnance Factories, 6, Esplanade East, Calcutta.
- \*30. The Secretary, Railway Board, New Delhi.
- \*31. The General Manager, Southern Railway, Perambur, Madras.
- \*32. The General Manager, Central Railway, Victoria Terminus, Bombay.
- \*33. The General Manager, Western Railway, Churchgate, Bombay.
- \*34. The General Manager, North-Eastern Railway, Gorakhpur.
- 35. The General Manager, Eastern Railway, Fairlie Place, Calcutta.
- 36. The General Manager, Northern Railway, The Mall, Delhi.
- \*37. The Chief Electrical Engineer, Damodar Valley Corporation, Anderson House, Alipore, Calcutta-27.
- \*38. The Electrical Executive Engineer, Project & Supply Division No. 2, Dehri-on-Sone.
- \*39. The Sub-Divisional Officer, Chatarpur Thermal Sub-Division, Chatarpur.
- 40. The Executive Engineer, (Electrical), Cuttack Thermal Division, Cuttack.
- 41. The Executive Engineer, Hirakud Utilization No. 1, New Capital, Bhubaneswar.
- \*42. The Executive Engineer, Electrical & Mechanical Division, Central Power Station, Faridabad.
- \*43. The Executive Engineer, Rural Electrification & Districts, Government of Andhra Pradesh, Hyderabad (Dn.).
- \*44. The General Manager, Telephones, Bombay District, Bombay-5.
- \*45. The General Manager, Telephones, Calcutta District, Calcutta.
- \*46. The General Manager, Telephones, Madras District, Madras-1.
- 47. The General Manager, Telephones, Delhi District, Delhi.
- \*48. The Additional Chief Engineer, Posts and Telegraphs Technical and Development Circle, Ridge Road, Jabalpur.
- \*49. The General Manager, Chittaranjan Locomotive Works, Chittaranjan.
- \*50. The Chief Administrative Officer, Integral Coach Factory, Perambur, Madras.
- 51. The Controller of Stores, South-Eastern Railway, Garden Reach, Calcutta.
- 52. The Chief Engineer (South), Stores Purchase Section, Willow Bank, Simla.

(b) Others:

- 1. Andhra Engineering Co. Ltd., Visakhapatnam.
- \*2. The Chittoor Electric Supply Corporation Ltd., Chittoor.
- 3. The Mechelac Engineering Co. Ltd., Kubera Building, 21, Sunkurama Chetty St., George Town, Madras-1.

4. The Divisional Engineer (Electrical), Vijayawada Municipality, Vijayawada.
5. Development of Industries (India) Ltd., 135, Prinsep Street, Calcutta-13.
- \*6. Sarada Charan Barada Kanta Roy, Silchar.
- \*7. Octavious Steel & Co. Ltd., 14, Old Court House Street, Calcutta.
- \*8. Mangilal Rungta, Chaibassa.
- \*9. The Commercial Engineer and Manager, The Ahmedabad Electricity Co. Ltd., Electricity House, Lal Darwaja, Ahmedabad.
10. The Sonawala Co. Ltd., Sonawala Buildings, 59/63 Apollo Street, Fort, Bombay.
11. Shri Sarda Kheti Sahayak Vidyut Mandal Ltd., Bardoli.
12. The Electrical Engineer, Baroda Borough Municipality, Post Box No. 17, Baroda.
- \*13. The Consolidated Electric Agencies Ltd., 17-B, Horniman Circle, Fort, Bombay.
- \*14. The Tata Hydro Electric Agencies Ltd., Bombay House, 24, Bruce Street, Fort, Bombay.
- \*15. The Bombay Electric Supply & Transport Undertaking, Bombay Municipality, Electric House, Fort, Bombay.
16. Dahanu Road People's Co-operative Electric Supply Society Ltd., Dahanu Road, (District Thana).
17. The Haveri Electric Supply, C/o Messrs. Manvi Bros., Station Road, Gadag.
- \*18. The Kalyan Electric Supply Co. Ltd., K.P.K. Mansa Esq., Murkad Road, Kalyan.
- \*19. Pandit & Company, 15, Forbes Street, Fort, Bombay-1.
- \*20. The Rajputana Textiles (Agencies) Ltd., Esplanade Mansions, 144/146, Mahatma Gandhi Road, Fort, Bombay.
21. Messrs. N. Thopte & Sons, "Nana Bhavan", 1194/20, Ghole Road, Poona-4.
- \*22. Killik Industries Ltd., Central Administration Department, Sorab Mansions, 85, Murzaban Road, Fort, Bombay-1.
- \*23. The Chief Officer, Visnagar Municipality, Visnagar.
- \*24. The Electrical Engineer, New Delhi Municipal Committee, Electricity Department, New Delhi.
- \*25. The Electrical Engineer, Bhopal Electric Supply, Bhopal.
26. The Resident Engineer, Madhya Bharat Electric Supply, Indore.
- \*27. Martin Burn Ltd., 12, Mission Row, Calcutta-1.
- \*28. The Central India Electric Supply Co. Ltd., Katni.
- \*29. The Nagpur Electric Light & Power Co. Ltd., Civil Lines, Post Box No. 2, Nagpur.
- \*30. Seshasayee Brothers, Ltd., Tiruchirapalli.
- \*31. Chandri and Co. Ltd., National Insurance Buildings, Esplanade, Madras-1.
- \*32. The South Arcot Electricity Distribution Co. Ltd., Jammi Buildings, Venkatachala Mudali Street, Malapre, P. B. No. 629, Madras-4.
33. The Kanadukathan Electric Supply Corporation Ltd., Kanadukathan.
34. The India Co. Ltd., Oriental Buildings, Armenian Street, Madras-1.
- \*35. The Ponnamaravathy Electric Supply Corporation Ltd., P. O. Ponnamaravathy, Pudukottai.
- \*36. The Pudukottai Electric Supply Corporation Ltd., Pudukottai.
- \*37. Sri Brahmayidyambal Electric Supply Corporation Ltd., Ramchandrapuram, P. O. Pudukottai.
- \*38. The Ambala Electric Supply Co. Ltd., Ambala City.
- \*39. The Chief Electrical Engineer, Amritsar Municipal Committee, Amritsar.
40. The Electrical Engineer, Simla Municipality, Simla.
41. Loonkaram Madan Mohan, Bankers & Merchants, Jivan Kuti, Ujjain.
- \*42. The Chief Engineer & Manager, Maharana Bhopal Electric Supply, Udaipur.
43. Shree Laxmi Agents Ltd., Jamnagar.

- \*44. The Cochin State Power & Light Corporation Ltd., Ernakulam.
- 45. The Kottayam Electric Supply Agency, C/o A. Narayan Moos, Kottayam.
- 46. The Resident Engineer, The Cochin Electric Co. Ltd., Mattancherry.
- 47. The Shencottah Electric Supply Agency, Shencottah.
- \*48. Jain & Co. Ltd., Udaisingh Jain Road, Mathura.
- \*49. Alopi Prashad & Sons Ltd., Kashmere Gate, Delhi.
- 50. Radheshyam & Bors., Fatehgarh.
- \*51. The Jaunpur Electric License (1934), C/o British Insulated Callendar Cables Ltd., 116, Station Road, Faizabad.
- \*52. Moona Lal & Sons, Jhansi.
- 53. Kanpur Electricity Supply Administration, "Kesa House", Post Box No. 141, Kanpur.
- \*54. The Mathura Electric Supply Co. Ltd., 14, Shib Thakur Lane, Calcutta-27.
- 55. The Electrical Development Corporation, Pathanpura Street, Saharanpur.
- \*56. President, Municipal Board, Unnao.
- 57. B. N. Elias & Co. Ltd., Morton Buildings, 1 & 2 Old Court House Corner, Calcutta-1.
- \*58. The Calcutta Electric Supply Corporation Ltd., Victoria House, Chowringhee Square, Calcutta-1.
- \*59. The Electrical Engineer, Darjeeling Municipality, Darjeeling.
- \*60. Andrew Yule & Co. Ltd., 8, Clive Street, Calcutta.
- \*61. Macneil & Barry Ltd., 2, Fairlie Place, Calcutta-1.
- \*62. The Kalimpong Electric Supply Co. Ltd., P-34, Mission Row Extension, 3rd Floor, Calcutta-1.
- 63. The Resident Engineer, The Chapra Electric Supply Works, Chapra.
- \*64. The Chief Engineer, Chirkunda Electric Supply Company, P. O. Barakar (District Burdwan).
- \*65. The Jharia Coal Field Electric Supply Co. Ltd., Block No. F-3, Clive Buildings, 8, Netaji Subhas Road, Calcutta-1.
- \*66. The Electrical Engineer & Manager, The Iqbal Electricity Supply, Municipal Power House, Palanpur (N. G.).
- 67. The Thana Electric Supply Co. Ltd., Court House (4th Floor), Carnac Road, Bombay-2.
- \*68. The Executive Superintendent, Dishergarh Power Supply Co. Ltd., Central Office, Sanctoria, Dishergarh P. O., District Burdwan.
- \*69. Savar Kundla Electric Supply Co. Ltd., Savar Kundala (Saurashtra).

(c) *Dealers:*

- †1. Radio Electricals Manufacturing Co. Ltd., Mysore Road, Bangalore-2.
- \*2. Hindustan Cables Ltd., Post Rupanarainpur, District Burdwan.
- †3. Kirloskar Electric Co. Ltd., 460/2, 18th Cross, Malleswaram, Bangalore-3.
- 4. Hindustan Steel (Private) Ltd., 2, Fairlie Place, Calcutta.
- \*5. Metal Distributors (Private) Ltd., 38, Strand Road, Calcutta.
- 6. Electrical Industries Corporation, 38, Brabourne Road, Calcutta.
- 7. Indian Iron & Steel Co. Ltd., 12, Mission Row, Calcutta.
- 8. M. J. Thanawala & Company, 47-49, Forbes Street, Bombay-1.

#### IV. GOVERNMENT DEPARTMENTS:

(a) *State Governments:*

- \*1. The Secretary to the Government of Bihar, Development (Industries) Department, Patna.
- \*2. The Secretary to the Government of Kerala, Industries (D) Department, Trivandrum.

3. The Secretary to the Government of Rajasthan, Industries & Mines Department, Jaipur.
- \*4. The Director of Industries & Statistics Authority, "Kalam Kutir", 211-219, Frere Road, Bombay.
- \*5. The Secretary to the Government of West Bengal, Commerce and Industries Department (Industries Branch), Calcutta.
6. The Secretary to the Government of Punjab, Industries Department, Chandigarh.
- \*7. District Industries Officer, Department of Industries, Punjab, Hissar.

(b) *Collectors of Customs:*

- \*1. The Collector of Customs, Customs House, Bombay.
- \*2. The Collector of Customs, Custom House, Calcutta.
- \*3. The Collector of Customs, Custom House, Madras.
- \*4. The Collector of Customs, Custom House, Cochin.

(c) *India Govt. High Commissions/Embassies Abroad:*

- \*1. Second Secretary (Commercial) to the High Commissioner for India in Canada, 200, McLaren Street, Ottawa, Ontario (Canada).
2. First Secretary (Commercial) to the Embassy of India, 2107, Massachusetts Avenue, N. W., Washington, 8, D. C.
- \*3. Minister (Economic) to the High Commissioner for India in the U. K., India House, Aldwych, London, W. C. 2.
- \*4. First Secretary (Commercial) to the Embassy of India in Japan, Empire House (Naigai Building), Marunouchi, Tokyo, Japan.
5. First Secretary (Commercial) to the Legation of India, 17, Geyergasse, Vienna XVIII, (Austria).
- \*6. First Secretary (Commercial), Embassy of India, 262, Koblenz-Strasse, BONN (Western Germany).
7. Commercial Attache to the Legation of India, Strandvagen 47, IV, Stockholm, Sweden.
- \*8. Second Secretary (Commercial) to the Embassy of India in Belgium, 585, Avenue Louise, Brussels.
9. First Secretary to the Embassy of India, via Francisco Denze 36, Rome.
10. First Secretary (Commercial) to the Embassy of India, 15, Rue Alfiede Dehodencg, Paris XVI eme.

(d) *Others:*

- \*1. The Director, Indian Standards Institution, 19, University Road, Civil Lines, Delhi-8.
- \*2. The Director General of Supplies & Disposals, Shahjahan Road, New Delhi.
- \*3. The Chief Industrial Adviser, Ministry of Commerce and Industry, Development Wing, Shahjahan Road, New Delhi.
- \*4. The Chairman, Central Water and Power Commission (Power Wing), Ministry of Irrigation & Power, Government of India, Clermont, Simla-4.
- \*5. The Development Commissioner, Small-Scale Industries, Ministry of Commerce and Industry, New Delhi.
- \*6. The Chief Controller of Imports & Exports, Churchroad Hutments, New Delhi.
- \*7. The Director General of Commercial Intelligence and Statistics, 1, Council House Street, Calcutta.
- \*8. The Iron and Steel Controller, 33-B, Netaji Subhas Road, Calcutta.

## V ASSOCIATION:

### (a) Producers' Associations :

- \*1. The Secretary, Indian Non-ferrous Metals Manufacturer's Association, India Exchange, Calcutta-1.
- \*2. The Secretary, Engineering Association of India, India Exchange (8th Floor), Calcutta-1.
- 3. The Secretary, Indian Electrical Manufacturers' Association, 35, Stephen House, Dalhousie Square, Calcutta.

### (b) Consumers' Associations :

- \*1. The Secretary, The Federation of Electricity Undertaking of India, Killick Building, Home Street, Bombay-1.
- 2. The Secretary, The Association of Electric Supply Companies, U. P. and Delhi, C/o Martin Burn Ltd., 12, Mission Row, Calcutta.
- \*3. The Secretary, The Association of Electricity Undertakings, Bihar and Orissa, C/o Octavious Steel Co. Ltd., P. B. No. 38, Calcutta.
- 4. The Secretary, The Association of Electricity Undertakings, Bengal, Victoria House, Calcutta.
- \*5. The Secretary, The Association of Electrical Undertakings of Bombay Province, Killick Building, Home Street, Bombay.

## VI RAW MATERIALS MANUFACTURES:

- \*1. Aluminium Industries Ltd., Ceramic Factory Road, Kundara (Kerala State).
- \*2. Indian Cable Co. Ltd., 9, Hare Street, Calcutta.
- \*3. National Pipes and Tubes Co. Ltd., Stephen House, 4, Dalhousie Square East, Calcutta.
- \*4. Jayant Metal Manufacturing Co., 924-A, Sayani Road, Bombay-28.
- \*5. Kamani Metals & Alloys Ltd., Kamani Chambers, Nicol Road; Ballard Estate, Bombay.
- \*6. The National Insulated Cable Co. of India Ltd., Stephen House, 4, Dalhousie Square, East, Calcutta-1.
- \*7. The National Rolling and Steel Pipes Ltd., Stephen House, 4, Dalhousie Square, Calcutta-1.
- \*8. Jaipur Metals and Electricals Ltd., Jaipur (Rajasthan).
- 9. National Screw & Wire Products Ltd., 51, Stephen House, 4, Dalhousie Square East, Calcutta-1.
- \*10. Devidayal Rolling and Refineries (Pr.) Ltd., Tulsiram Gupta Mills Estate, Darukhana, Bombay-10.
- \*11. Indian Copper Corporation, Ghatsila (Singbhum).
- \*12. Kamani Brothers (Pr.) Ltd., Kamani Chambers, Nicol Road, Ballard Estate, Bombay-1.

## APPENDIX II

(Vide paragraph 4.4)

*List of persons who attended the Commission's public inquiry on 17 September, 1957*

### PRODUCERS:

1. Shri P. R. Kamani . . . . .	}	Representing	Indian Non-Ferrous Metals Manufacturers' Association, India Exchange, Calcutta.
2. Shri C. G. Chandrasekhar . . . . .			
3. Shri D. K. Sinha . . . . .		„	Indian Electrical Manufacturer's Association, 35, Stephen House, Dalhousie Square, Calcutta.
4. Shri P. S. Shavaksha . . . . .	}	„	The Indian Cable Co. Ltd., 9, Hare Street, Calcutta-1.
5. Shri A. C. Gupta . . . . .			
6. Shri R. S. Mani . . . . .			
7. Mr. S. M. Blagg . . . . .			
8. Shri T. S. Sitapati . . . . .		„	National Insulated Cable Co. of India Limited, "Stephen House", 4, Dalhousie Square East, Calcutta-1.

### AND

			Indian Non-Ferrous Metals Manufacturers' Association, India Exchange, Calcutta.
9. Shri C. S. Rao . . . . .		„	National Insulated Cable Co. of India Limited, "Stephen House", 4, Dalhousie Square East, Calcutta-1.
10. Shri B. V. D. Menon . . . . .		„	Aluminium Industries Limited, Kundara (KERALA STATE).

### AND

			Indian Non-Ferrous Metals Manufacturers' Association, India Exchange, Calcutta.
11. Shri K. R. Sankaranarayanan . . . . .		„	Aluminium Industries Limited, Kundara (KERALA STATE).
12. Shri P. G. Mehta . . . . .	}	„	Jaipur Metals & Electricals Ltd., Near Railway Station, Jaipur (RAJASTHAN).
13. Shri J. Dass . . . . .			
14. Shri D. R. Jinsiwale . . . . .	}	„	Jayant Metal Manufacturing Company, 924-A, Sayani Road, Bombay-28.
15. Shri M. L. Makadia . . . . .			
16. Shri Om Khosla . . . . .	}	„	Electrical Manufacturing Co. Ltd., Post Box 800, Cal- cutta-1.
17. Shri S. B. Sethi . . . . .			
18. Shri D. D. Desai . . . . .	}	„	The Hindustan Electric Co. Ltd., Thackersey House, Graham Road, Ballard Estate, Bom- bay-1.
19. Shri J. M. Patel . . . . .			

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PRODUCER'S—*contd.*

20. Shri Harikishandas Aggarwal . . . . .	} Representing	Devidayal Cable Industries (P) Ltd., Gupta Mills Estate, Darukhana, Reay Road, Bombay-10.
21. Shri P. J. Vakil . . . . .		
22. Shri K. K. Bhasin . . . . .	}	The Aluminium Corporation of India Limited, 7, Council House Street, Calcutta.
23. Shri N. L. V. Subramanyam . . . . .		
24. Shri R. S. Kapur . . . . .	„	Ram Kishan Metal Works (Bombay), Ram Kishan Wadi, Railway Road, Bhandup, Bombay-40.
25. Shri V. S. Aggarwal . . . . .	„	Laxmi Cables (India), Railway Road, Bhandup, Bombay-40.
26. Shri B. T. Patel . . . . .	„	Patel Metal Works, Sunder Bhuvan, Bhuleswar, Fulgali, Bombay-2.
27. Shri N. J. Shah . . . . .	„	Jariwala Isverlal Jekisandas & Co., 174, Kika Street, Gulalwadi, Bombay-4.

## RAW MATERIALS MANUFACTURERS:

28. Shri A. L. Sabharwal . . . . .	„	Indian Aluminium Company, 31, Chowringhee Road, Calcutta.
29. Shri Kewalkishin Aggarwal . . . . .	„	Devidayal Rolling & Refineries (Private) Limited, Tulsiram Gupta Mills Estate, Darukhana, Reay Road, Bombay-10.
30. Shri B. R. Saraiya . . . . .	}	Kamani Brothers (Private) Ltd. Kamani Chambers, Nico Road, Ballard Estate, Bombay.
31. Shri D. K. Bhatt . . . . .		
32. Shri P. C. N. Majumdar . . . . .		

## IMPORTERS:

33. Mr. H. E. Griffiths . . . . .	„	Aluminium Union Limited, 41, Chowringhee, Calcutta-16.
34. Shri B. M. Advani . . . . .	„	Blue Star Engineering Co. (Bombay) Private Limited, Kasturi Buildings, Jamshedji Tata Road, Bombay-1.
35. Shri Harilal V. Mody . . . . .	}	India Metal Agencies, 'India House', Opp. G. P. O., Bombay-1.
36. Shri K. C. Shah . . . . .		
37. Shri R. Sharma . . . . .	„	Premraj Ganapatraji & Co., 419-B, Kalbadevi Road, Bombay-2.

## CONSUMERS:

38. Shri H. K. Ramaswami . . . . .	}	The Federation of Electricity Undertakings of India, Killick Building, Home Street, Bombay-1.
39. Shri R. P. Aiyer . . . . .		
40. Shri M. P. G. Menon . . . . .	„	The Director General of Post Telegraphs, New Delhi.

CONSUMERS—*contd.*

41. Shri J. N. Goswami . . . . .	Representing	Domodar Valley Corporation, Anderson House, Alipore, Calcutta-27.
42. Shri S. D. Bana . . . . .	„	Bombay State Electricity Board, Mercantile Bank Building, Dr. Dadabhoy Naoroji Road, Bombay-1.
43. Shri P. A. Krishnan . . . . .	„	The Madras State Electricity Board, 157, Mount Road, Madras-2.
44. Shri S. K. Gurnani . . . . .	„	The General Manager, Central Railway, V. T., Bombay.
45. Shri T. S. Viswanathan . . . . .	„	The General Manager, Western Railway, Churchgate, Bombay.
46. Shri N. P. Kirpalani . . . . .	„	CENTRAL ADMINISTRATION DEPT: The Ahmedabad Electricity Co. Ltd., The Surat Electricity Co. Ltd., Bombay Suburban Electric Supply Ltd., Sorab Mansion, 35, Murzban Road, Bombay-1.
47. Shri S. Vithal . . . . .	„	The Tata Hydro-Electric Power Supply Company Ltd., Bombay House, Bruce Street, Bombay.

## GOVERNMENT DEPARTMENTS:


48. Shri P. N. Deo Bhakta, Deputy Development Officer (Electrical Industry).	„	Ministry of Commerce & Industry, Development Wing, Government of India, Shahjahan Rd., New Delhi.
49. Shri V. Venugopalan, Director (Transmission).	„	Central Water & Power Commission (Power Wing), Ministry of Irrigation & Power, Government of India, Cleremont, Simla-4.
50. Shri K. J. Shenoy, Deputy Director of Supplies.	„	The Director General of Supplies & Disposals, Shahjahan Road, New Delhi.
51. Lt. Col. O. G. Eapen, Deputy Iron & Steel Controller, Bombay.	„	The Iron & Steel Controller, 33-B, Netaji Subhas Road, Calcutta.
52. Shri B. C. Mallik, Director of Industries.	„	The Government of West Bengal, Commerce and Industries Department, (Industries Branch), Calcutta.
53. Shri D. S. Godbole, Assistant Director of Industries (Engg.).	„	The Director of Industries & Statistics Authority, 'Kalam Kutir' 211-219, Frere Road, Bombay.
54. Shri A. B. Rao, Assistant Director, I.S.I. Branch, Bombay.	„	Indian Standards Institution, 19, University Road, Civil Lines, Delhi-8.
55. Shri S. G. Regc, Assessing Officer	„	The Collector of Customs, New Custom House, Bombay-1.

## APPENDIX III

(Vide paragraph 8.2)

Statement showing the present annual capacity and production of bare copper and aluminium conductors from 1954 to 1957 (Jan-June)  
(In Tons)

Name of the unit	Year of establish- ment	Present annual capacity (Single shift)	PRODUCTION							
			Name of product	1954	1955	1956	1957 (Jan.- June).			
1	2	3	4	5	6	7	8			
(1) Bare Copper Conductors										
1. Indian Cable Co. Ltd . . . . .	1922	2,500	1. Solid Bare Copper Conductors . . . . .	2,110	2,626	2,286	1,066			
			2. Stranded Bare Copper Conductors . . . . .	631	680	657	134			
			3. Cadmium Copper Conductors . . . . .	..	..	2	5			
			4. Copper-weld Wires . . . . .	..	35	21	4			
			TOTAL . . . . .	2,741	3,351	2,966	1,209			
2. Jayant Metal Mfg. Co. . . . .	1940	1,200	Solid Bare Copper Conductors . . . . .	103	418	755	558			
*3. National Screw & Wire Products Ltd.	1941	1,800	1. Solid Bare Copper Conductors . . . . .	1,976	1,460	2,115	725			
			2. Stranded Bar Copper Conductors . . . . .							
4. National Insulated Cable Co. of India Ltd.	1942	2,500	1. Solid Bare Copper Conductors . . . . .	1,337	516	1,608	521			
			2. Stranded Bare Copper Conductors . . . . .	290	334	552	383			
			TOTAL . . . . .	1,627	850	2,160	904			

5. Jaipur Metals & Electricals Ltd.	1943	3,000	1. Solid Bare Copper Conductors	981	2,003	1,619	1,153
			2. Cadmium Copper Conductors	302	20	265	..
			TOTAL	1,283	2,023	1,884	1,153
6. Devidayal Cable Industries Private Ltd	1953	900	1. Solid Bare Copper Conductors	..	..	822	393
			2. Stranded Bare Copper Conductors	4,531	5,573	7,090	3,691
	11,900		3. Cadmium Copper Conductors	921	1,014	1,209	517
			4. Copper-weld Wires	302	20	267	5
				..	35	21	4
			TOTAL	7,730	8,102	10,702	4,942
<div style="text-align: center;">  <p>(II) A.C.S.R. and All Aluminium Conductors</p> </div>							
1. Indian Cable Co. Ltd	1922	910	1. A.C.S.R.	289	876	1,148	418
			2. All-Aluminium Conductors	226	628	780	299
			TOTAL	515	1,504	1,928	717
2. National Insulated Cable Co. of India Ltd.	1942	600	1. A.C.S.R.	491	833	398	166
			2. All-Aluminium Conductors	8	34	41	2
			TOTAL	499	867	439	168
3. Aluminium Industries Ltd.	1946	2,000	1. A.C.S.R.	4,282	4,231	4,326	2,971
			2. All-Aluminium Conductors	418	608	1,310	770
			TOTAL	4,700	4,839	5,636	3,741

\* Separate data in respect of Solid and Stranded Bare Copper Conductors for this company is not available.

† Figures are exclusive of those for S. No. 3.

‡ Figures are inclusive of those for S. No. 3.

1	2	3	4	In tons			
				5	6	7	8
4. Hindustan Electric Co. Ltd.	1949	1,500	1. A.C.S.R.	..	353	1,269	1,057
			2. All-Aluminium Conductors	..	181	254	152
			TOTAL	..	534	1,523	1,209
* 5. Electrical Manufacturing Co. Ltd.	1953	1,350	1. A.C.S.R.	..	1,822	3,029	..
			2. All-Aluminium Conductors	..	21	70	..
			TOTAL	..	1,843	3,099	..
TOTAL		6,360	1. A.C.S.R.	5,062	8,115	10,170	4,612
			2. All-Aluminium Conductors	632	1,472	2,455	1,223
			TOTAL	5,714	9,587	12,625	5,835

\* Figures of production for 1955 and 1956 relate to the Company's financial years 1955-56 and 1956-57 respectively.

## APPENDIX IV

(Vide paragraph 15-2-4)

*Statement showing financial results*

### *I. Indian Cable Co., Calcutta.*

	1953-54 (Lakh Rs.)	1954-55 (Lakh Rs.)	1955-56 (Lakh Rs.)
(i) Gross block . . . . .	132.87	155.72	199.39
(ii) Capital employed . . . . .	331.50	327.24	405.88
(iii) Sales turnover . . . . .	331.00	499.03	614.55
(iv) Net profits ( <i>i.e.</i> , profits after providing for depreciation at income-tax rates but not for Managing Agents/Directors Commission and taxation) earned.	26.98	79.20	124.66
(v) Dividend and cash bonus paid on ordinary shares.	Dividend 7½ per cent. plus cash bonus 2½ per cent. free of income-tax.	Dividend 10 per cent. plus cash bonus 2½ per cent. free of income-tax.	Dividend 12½ per cent. plus cash bonus 2½ per cent. free of income-tax.
(vi) Net profits as percentage to gross block.	20.31 per cent.	50.86 per cent.	62.52 per cent.
(vii) Net profits as percentage to capital employed.	8.14 per cent.	24.20 per cent.	30.71 per cent.
(viii) Net profits as percentage to sales turn-over.	8.15 per cent.	15.87 per cent.	20.28 per cent.

### *II. National Insulated Cable Co of Indian Ltd., Calcutta.*

	1953-54 (Lakh Rs.)	1954-55 (Lakh Rs.)	1955-56 (Lakh Rs.)
(i) Gross block . . . . .	53.81	59.10	63.55
(ii) Capital employed . . . . .	124.37	108.85	168.94
(iii) Sales turnover . . . . .	170.10	192.60	277.31
(iv) Net profits ( <i>i.e.</i> , profits after providing for depreciation at income-tax rates but not for Managing Agents/Directors, Commission and taxation) earned.	16.80	36.03	167.39
(v) Dividends and cash bonus paid on ordinary shares.	Dividend 10 per cent. free of income-tax.	Dividend 10 per cent. plus cash bonus 5 per cent. free of income-tax.	Dividend 15 per cent. plus cash bonus 5 per cent. free of income-tax.
(vi) Net profits as percentage to gross block.	31.22 per cent.	60.96 per cent.	106.04 per cent.
(vii) Net profits as percentage to capital employed.	13.51 per cent.	33.10 per cent.	39.88 per cent.
(viii) Net profits as percentage to sales turnover.	9.88 per cent.	18.71 per cent.	24.30 per cent.

### III. Aluminium Industries Ltd., Kundara.

	1953-54 (Lakh Rs.)	1954-55 (Lakh Rs.)	1955-56 (Lakh Rs.)
(i) Gross block . . . . .	33.78	48.52	56.26
(ii) Capital employed . . . . .	60.33	82.34	106.39
(iii) Sales turnover . . . . .	130.56	185.67	208.52
(iv) Net profits ( <i>i.e.</i> , profits after providing for depreciation at income-tax rates but not for Managing Agents/Directors Commission and taxation) earned.	14.25	21.65	11.22
(v) Dividends paid on ordinary shares . . . . .	12½ per cent. free of income-tax.	12½ per cent. free of income-tax.	12½ per cent. free of income-tax.
(vi) Net profits as percentage to gross block.	42.18 per cent.	44.62 per cent.	19.94 per cent.
(vii) Net profits as percentage to capital employed.	23.62 per cent.	26.29 per cent.	10.55 per cent.
(viii) Net profits as percentage to sales turnover.	10.91 per cent.	11.66 per cent.	5.38 per cent.

### IV. Electrical Manufacturing Co. Ltd. Calcutta.

	1954-55 (Lakh Rs.)	1955-56 (Lakh Rs.)
(i) Gross block . . . . .	8.10	9.58
(ii) Capital employed . . . . .	14.13	18.75
(iii) Sales turnover . . . . .	23.44	67.93
(iv) Net profits ( <i>i.e.</i> , profits after providing for depreciation at income-tax rates but not for Managing Agents/Directors Commission and taxation) earned.	0.85	4.19
(v) Dividend paid on ordinary shares . . . . .	Nil	5 per cent. free of income-tax.
(vi) Net profits as percentage to gross block . . . . .	10.49 per cent.	43.74 per cent.
(vii) Net profits as percentage to capital employed . . . . .	6.02 per cent.	22.35 per cent.
(viii) Net profits as percentage to sales turnover . . . . .	3.63 per cent	6.17 per cent

*V. Jaipur Metals and Electricals Ltd., Jaipur*

	1953 (Lakh Rs.)	1954 (Lakh Rs.)	1955 (Lakh Rs.)
(i) Capital employed . . . . .	N.A.	39.63	50.88
(ii) Sales turnover . . . . .	38.90	87.94	156.94
(iii) Net profits earned . . . . .	1.66	2.47	3.48
(iv) Dividend paid on ordinary shares . . . . .	4 per cent. free of in- come-tax.	4 per cent. free of in- come-tax.	4 per cent. free of in- come-tax.
(v) Net profits as per centage to capital employed.	N.A.	6.23 per cent.	6.84 per cent.
(vi) Net profits as percentage to sales turnover.	4.27 per cent.	2.81 per cent.	2.22 per cent.

*VI. Hindustan Electric Co. Ltd., Bombay*

	1954-55 (Lakh Rs.)	1955-56 (Lakhs Rs.)
(i) Capital employed . . . . .	N.A.	77.87
(ii) Sales turnover . . . . .	109.75	90.85
(iii) Net profits earned . . . . .	4.18	5.24
(iv) Dividends paid on ordinary shares . . . . .	Nil	6 per cent.
(v) Net profits as percentage to capital employed . . . . .	..	6.73 per cent.
(vi) Net profits as per centage to sales turnover . . . . .	3.81 per cent.	5.77 per cent.

*VII. National Screw and Wire Products Ltd., Calcutta*

	1954 (Lakh Rs.)	1955 (Lakh Rs.)
(i) Capital employed . . . . .	N.A.	24.63
(ii) Sales turnover . . . . .	81.46	84.03
(iii) Net profits earned . . . . .	5.77	3.75
(iv) Dividend paid on ordinary shares . . . . .	20 per cent.	15 per cent. free of in- come-tax.
(v) Net profits as percentage to capital employed . . . . .	N.A.	15.23 per cent.
(vi) Net profits as percentage to sales turnover . . . . .	7.08 per cent.	4.46 per cent.



## APPENDIX V

(Vide paragraph 16.5.8)

Statement showing the c.i.f. prices, customs duty, clearing charges and landed costs of imported A.C.S.R. and all-aluminium conductors (Rs. per mile)

Source of information	Origin of import	Date of import	Description of article	c.i.f. price	Customs duty	Clearing charges	Landed Cost
1	2	3	4	5	6	7	8
I. A.C.S.R.							
*Aluminium Union Ltd., Calcutta	Canada	July, '57	6/11.059" (Mole)	278.57	..	..	..
Do.	Spain	"	Do.	260.71	..	..	..
Do.	Canada	"	6/11.083" (Squirrel)	492.86	..	..	..
Do.	Spain	"	Do.	471.43	..	..	..
Do.	Canada	"	6/11.093" (Gopher)	608.33	..	..	..
Do.	Spain	"	Do.	571.43	..	..	..
*Collector of Customs, Bombay	Hungary	3-5-1957	Do.	519.00	163.50	34.12	716.62
*Collector of Customs, Madras	U. K.	May, 1957	Do.	538.00	198.30	5.70	742.00
*Aluminium Union Ltd., Calcutta	Canada	July, '57	6/11.102" (Weasel)	719.05	..	..	..
Do.	Spain	"	Do.	686.90	..	..	..
Collector of Customs, Bombay	Hungary	13-6-1957	Do.	609.00	191.81	40.06	840.87
Collector of Customs, Madras	U. K.	May, 1957	Do.	642.40	224.70	6.90	874.00
Do.	"	"	Do.	654.60	206.19	6.21	867.00
*Aluminium Union Ltd., Calcutta	Canada	July, 1957	6/11.1052" (Sparrow)	757.14	..	..	..

*	Do.	Spain	"	"	Do.	714.29	..	..	..
*	Do.	Canada	"	"	6/11.110" (Fox)	830.95	..	..	..
*	Do.	Spain	"	"	Do.	797.62	..	..	..
Collector of Customs, Bombay									
		W. Germany.	13-6-1957		Do.	728.00	229.32	47.87	1,005.19
*Aluminium Union Ltd., Calcutta									
*	Do.	Canada	July, 1957		6/11.118" (Ferret)	947.62	..	..	..
*	Do.	Spain	"	"	Do.	902.38	..	..	..
Collector of Customs, Bombay									
		Hungary	25-4-1957		Do.	831.00	268.06	55.94	1175.00
India Metal Agencies, Bombay									
		"	23-1-1957		Do.	851.00	..	..	..
*Aluminium Union Ltd., Calcutta									
*	Do.	Canada	July, 1957		6/11.132" (Rabbit)	1177.38	..	..	..
*	Do.	Spain	"	"	Do.	1130.95	..	..	..
*	Do.	Canada	"	"	6/11.144" (Mink)	1402.38	..	..	..
*	Do.	Spain	"	"	Do.	1346.43	..	..	..
*	Do.	Canada	"	"	6/11.161" (Raccoon)	1747.62	..	..	..
*	Do.	Spain	"	"	Do.	1654.76	..	..	..
*	Do.	Canada	"	"	6/11.177" (Cat)	2108.33	..	..	..
*	Do.	Spain	"	"	Do.	2000.00	..	..	..
*	Do.	Canada	"	"	6/11.186" 7/1.062" (Dog)	2338.09	..	..	..
*	Do.	Spain	"	"	Do.	2229.76	..	..	..
Collector of Customs, Bom bay									
		U. K.	12-6-1957		6/1.208" 7/1.0693"	2493.00	785.32	163.87 + 3442.19	..
Do.									
		Austria	30-4-1957		Do.	2486.00	783.56	163.50	3433.06
*Aluminium Union Ltd., Calcutta									
*	Do.	Canada	July, 1957		6/1.2109" 7/1.0703" (owl)	2934.52	..	..	..
*	Do.	Spain	"	"	Do.	2772.62	..	..	..
*	Do.	Canada	"	"	12/7.110" (Horse)	2585.71	..	..	..

	1	2	3	4	5	6	7	8
*Aluminium Union Ltd., Calcutta		Spain	July 1957	12/7/.110" (Horse)	2484.52	..	..	..
" Do.		Canada	"	26/.1138"/7/.0885" (Linnet)	3805.95	..	..	..
" Do.		Spain	"	Do.	3519.04	..	..	..
" Do.		Canada	"	30/7/.093" (Tiger)	3300.00	..	..	..
" Do.		Spain	"	Do.	3140.47	..	..	..
" Do.		Canada	"	30/7/.102" (Wolf)	3908.33	..	..	..
" Do.		Spain	"	Do.	3778.57	..	..	..
" Do.		Canada	August, 1957	30/7/.110" (Lynx)	4327.38	..	..	..
" Do.		Spain	"	Do.	4340.23	..	..	..
" Do.		Canada	July, 1957	30/7/.1151" (Lark)	4879.76	..	..	..
" Do.		Spain	"	Do.	4700.00	..	..	..
" Do.		Canada	"	30/7/.118" (Panther)	5173.80	..	..	..
" Do.		Spain	"	Do.	4971.42	..	..	..

#### II. All-Aluminium Conductors

*Aluminium Union Ltd., Calcutta		Canada	August, 1957	3/.144" (Weevil)	571.43	..	..	..
" Do.		Spain	"	Do.	564.29	..	..	..
" Do.		Canada	July, 1957	7/.0772" (Rose)	391.67	..	..	..
" Do.		Spain	"	Do.	398.81	..	..	..
Collector of Customs, Madras		Austria	June, 1957	Do.	363.63	36.37	3.00	403.00
Chari & Chari (P) Ltd., Madras		"	"	Do.	370.97	37.15	1.47	409.59
Chari & Chari (P) Ltd., Madras		"	June, 1957	Do.	371.34	37.15	1.21	409.70

Premraj Ganpatraj & Co., Bombay	Finland	April 1957	Do.	370'00	19'43	7'40	396'83
Chari & Chari (P). Ltd., Madras	Austria	12-2-1957	Do.	350'47	18'42	1'02	369'91
Collector of Customs, Calcutta	Canada	1956	Do.	470'00	25'00	10'00	505'00
*Aluminium Union Ltd., Calcutta	"	July, 1957	7/.081" (Midge)	433'33	..	..	..
"	Spain	"	Do.	415'48	..	..	..
"	Canada	"	7/.0975" (Iris)	605'95	..	..	..
"	Spain	"	Do.	583'33	..	..	..
Chari & Chari (P) Ltd., Madras	Austria	8-1-1957	Do.	590'95	30'58	2'07	623'60
Collector of Customs, Calcutta	Canada	1956	Do.	683'00	36'00	11'00	730'00
*Aluminium Union Ltd., Calcutta	"	July, 1957	7/.1098" (Pansy)	744'05	..	..	..
"	Spain	"	Do.	723'81	..	..	..
Collector of Customs, Madras	"	April, 1957	Do.	723'00	37'94	7'06	768'00
Collector of Customs, Calcutta	Canada	1956	Do.	839'00	44'00	12'00	895'00
*Aluminium Ltd., Calcutta	"	August, 1957	7/.110" (Ladybird)	764'28	..	..	..
"	Spain	"	Do.	730'95	..	..	..
"	Canada	August, 1957	7/.122" (Ant)	932'14	..	..	..
"	Spain	"	Do.	901'19	..	..	..
"	Canada	July, 1957	7/.1228" (Poppy)	929'76	..	..	..
"	Spain	"	Do.	911'90	..	..	..
Premraj Ganpatraj & Co., Bombay	Finland	Jan. 1957	Do.	875'00	45'94	17'50	938'44
*Aluminium Union Ltd., Calcutta	Canada	August, 1957	7/.134" (Fly)	1121'43	..	..	..
"	Spain	"	Do.	1072'62	..	..	..
"	Canada	July, 1957	7/.1386" (Aster)	1164'28	..	..	..
"	Spain	"	Do.	1133'33	..	..	..

1	2	3	4	5	6	7	8
				1080.00	56.70	21.60	1158.30
				1310.00	69.00	16.00	1395.00
				1286.90	..	..	..
				1236.90	..	..	..

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